

Modern Poultry Keeping



By George Scott

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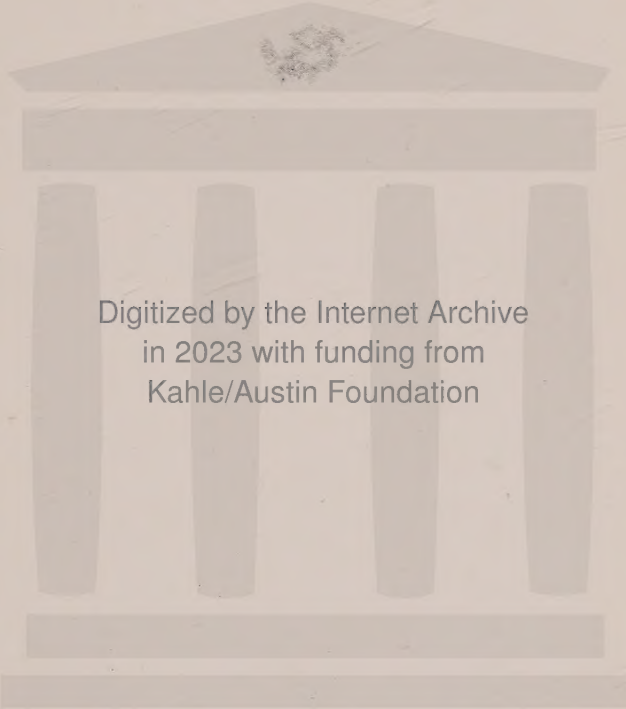
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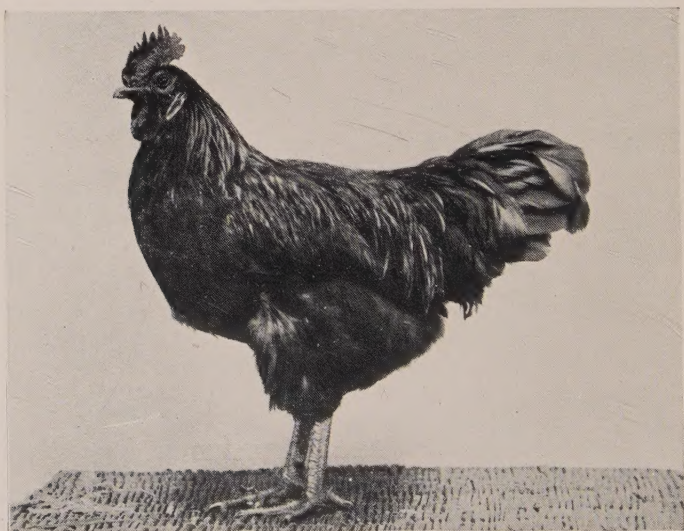
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MODERN POULTRY-KEEPING

BY
GEORGE SCOTT, F.Z.S.

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FOREWORD

FROM the very moment when printing was first introduced it would seem to have been the astounding rule rather than the lonesome exception for the thoroughly qualified in any subject to leave the inculcatory exposition of that subject most thoroughly alone. Doubtless this was and is in part due to the indubitable fact that with the extension of knowledge and accumulation of experience comes, strangely paradoxical though it may sound, the insecurity of belief, the dubiety and tentativity in relation even to intrinsic fundamentals that cause the man of vast experience, knowledge, and erudition to qualify, and often enough plainly hesitate where a nincompoop, a charlatan, or a member of the novitiate lays down the law with convincingly firm and inexorable precision.

Any student of English literature cannot fail to observe that through all the ages and out of the uncountable thousands of published volumes, the number of works on the grammar and composition of the English language written by masters of the art literary could be comfortably tallied on the digits of one hand. But of grammatical works and handbooks on the writing of English by men who have never turned out a distinctive literary work, there are lists of incredible length. Carlyle, Macaulay, Gibbon, Ruskin, literary artists all, have contributed never so much as an essay on the craft of writing. Who more capable

than Pater to inculcate the art of sentence construction? One looks vainly and tiredly amongst the grammarians for such names as Matthew Arnold and Cardinal Newman—one finds merely those of pedantic schoolmasters and college dons. There are, as has already been stated, a few exceptions. And they stand out, these few, in glittering prominence against the ruck that crowds the bookshelves, as a diamond of the first water stands out in lustrous perfection from a litter of glistening glass.

Now as a result of an investigation of the printed contributions to poultry-lore, some deservedly dead and buried, others well-nigh competing for positions amongst the ranks of best-sellers, I have little hesitation in saying that the position, from the standpoint of the earnest and serious searcher for authoritative knowledge, could not very well be worse. As regards actual number, there are sufficient books to stock a small library. But in the prodigious main, these are the productions of men whose actual knowledge of the art upon which they write at such length could be written comfortably on one's finger-nail.

It is then for this most excellent reason that I make not the smallest apology for yet another addition to this lengthy list. Indeed, as a matter of strict fact, this present work is seriously intended to fill a distinct and definite gap—its sole *raison d'être* is the undeniable need for a book giving unblushingly and candidly the whole truth about the hobby* and business of poultry-keeping.

As already indicated, the apocryphal side of the

* It should be clearly noted that for the purposes of this book and throughout its pages the word "hobby" is given its popular meaning, in contradistinction to the interpretation given the word by the author in philosophical and literary essays.

thing can be found within a dozen different attractive "jackets" in any bookshop. And to the number of such books there is unfortunately no visible end. In fact, with the possible exceptions of spiritualism, socialism and religion, I very much question whether there is any other subject on earth about which such a mass of sheer, idiotic nonsense has been written.

It is books of this delusive brand, as error-crowded as they are badly written, that have in the main been responsible for the widely disseminated idea that to make money out of poultry is by way of being the easiest thing on earth. The fact that the purveyors of this pleasantly alluring information have either never so much as made a start, or failed most dismally, in the very quest they describe with such glib ease and assurance, affects the matter not one jot. The public, in blissful, colossal, ecstatic ignorance, takes them at their own particular valuations and accepts their written asseverations with respect and attention. The trouble of the whole thing is that so many beginners, totally misled by these dangerously titillating and altogether illusionary statements, after a brief but expensive career, give up the game in sheer unutterable disgust and despair.

Now in this work, which is plainly different from any book on poultry that has ever before been printed, I have attempted, without going into tiresome or unnecessary details, to cover in as thorough a manner as is possible, poultry culture in all its ramifications; in its theory no less than in its practice. The different branches, commercial, utility, and exhibition, with their respective side lines, have been presented with a meticulous regard for accuracy of statement. No flamboyant pictures of an easy, sure and quick road

to wealth have been drawn. Poultry-keeping in its naked truth has been sketched ; so much so indeed that I expect to be accused by some of being needlessly and distressingly frank.

In order to carry out my plan in the simplest and best way the work is divided into two sections ; the first of which deals theoretically and critically with the hobby and business sides of poultry-keeping in all their phases ; and the latter with the more practical and technical details of management, breeding, showing, etc. A copious index is added so that the reader can readily and easily refer to any particular point.

As this book is primarily intended for the beginner, who naturally is not acquainted with the author's qualifications, it may be well to mention that my authority for a series of statements which may contradict flatly the ideas gleaned from other books on the subject lies in the fact that for considerably more than a decade I have made a satisfactory income from the poultry business alone ; that at my back is a wide and varied experience of exhibition, commercial and utility hen-farming in England and America ; and that my reputation as an eminently successful judge, breeder and exhibitor is an international one.

GEORGE SCOTT.

The illustrations used on the jacket of this book are reproduced from "The Poultry World," by the courtesy of the publishers.

PART I

CHAPTER I

POULTRY KEEPING AS A HOBBY

IT was, I think, Sir Walter Scott who once said that "literature is a good walking-stick but a poor crutch." The same may, with vast and unerring truth, be said of poultry-keeping. There are poultry-keepers as there are authors who have amassed considerable fortunes, but these few—and in all truth they are remarkably few—are the blessed of God and no ordinary men. The average practitioner in both walks of life has to be content with a decimal part of the income of a successful boxer, a tenth-rate cinema actor, or a manufacturer of glass beads ; while the vast majority give up the game in sheer incalculable disgust. To supplement one's income by keeping a few fowls as a hobby is one thing, to earn a substantial sum by running a poultry farm is very decidedly another. The gulf that separates the two is, in its enormity, well nigh unimaginable. It is almost entirely due to the general failure to realise this truth that there are so many additions to an already hugely swollen list of poultry failures. The unpracticable statements and paralogical theories with which the average poultry book bristles, the specious and utterly absurd argu-

ments besprinkled so plentifully throughout the lay press, have combined to lead people woefully astray. Granted the average modicum of intelligence, a thorough knowledge of poultry management and breeding, a real liking for the work, and poultry-keeping can be made a most profitable undertaking. But it is very essentially not an easy business to master. Three months on a hen-farm; riding, shooting, and between times playing at poultry farming; is not by any means sufficient preparation. Nor is six months. Nor yet a whole year. While the most unremitting study of "How to Make Five Hundred Pounds a Year From Two Hundred Laying Hens," is a good deal worse than useless. Nothing but sound common-sense coupled with the knowledge gleaned from authoritative sources and by actual experience, will make the successful poultry-keeper. The road to fame and fortune may not be so obstacle-bestrewed as is that of literature or motion picture acting, but it is very considerably more difficult than company promoting, manufacturing aeroplanes, selling fur-coats, or managing a night club; while running a cinema show, teaching the young idea, selling soap and sugar, and supervising a soda-fountain are all the veriest child's play in comparison.

Now in plain and actual truth it is as a shining example of the hobby profitable that I look upon poultry-keeping, and for the vast bulk of the inhabitants of these or any other islands it is crass foolishness to ever look upon it as anything more. Of the overwhelming majority of the poultry breeders who to-day, are seriously making a living out of hens alone, it may be said that they started their respective poultry careers as hobbyists pure and simple without

even so much as a thought of making more than beer or tobacco or moving-picture money out of the game. And it may be bigly remembered by those who are of the opinion that poultry farming is a business requiring the precise brand of intelligence flourished by the village idiot, that for every hobbyist who has blossomed forth as a shingly-successful poultry farmer, there are a full hundred who have made the attempt and failed most dismally ; and rather more than a thousand who have lived and died in the ranks of the dilettanti. Here then is one very good and sufficient reason why the amateur whose ultimate ambition is to make a living from hens should start poultry keeping as a hobby or side line, while following some other avocation.

But there is another and a better reason. Anticipation is one thing ; realization is very emphatically another. Poultry farming as described in books and in articles written by men who have never been nearer to practical poultry breeding than the shelves of the British Museum, and whose knowledge of birds begins and ends with those seen in the Zoological Gardens, is an illusion which may well shatter the complacency of the average city clerk or itinerant insurance collector. A week's holiday in August after twelve months' confinement in Leeds or Manchester or Birmingham seems a taste of heaven. But the country in January, and poultry-farming in snow and wet and sludge are apt to look quite different. At any rate, whichever way one looks at the thing, it is infinitely better that disillusion should come on one as a nasty slap while keeping a few fowls as a hobby, than as a big felling blow after sinking all one's available capital in the establishment of a complete farm.

Now it is given to most men (and women, too, for the matter of that) to have what, for want of a better term, may be called a hobby. And this hobby may be any one of many different brands. It may indeed be any mortal thing other than the business on which one is dependent for one's daily bread. But as a rule, it is one or more of a well-defined and limited circle of diversions; cricket or football, motoring, film-gazing, wireless-listening, gramophone-playing, dog-breeding, canary-showing, collecting foreign stamps, jazz-dancing, poultry-keeping.

And it may be set down as a solid fact, when one comes to consider the number who by environment or other circumstances are prevented from following their own particular bent, that poultry-keeping is the most popular of the whole lot. Few indeed are the possessors of so much as six square yards of grass land who have not decorated it with fowls of sorts; rare indeed is it to find anyone who at one time or another does not itch with similar aspirations.

And really it is hard to find a hobby that can be better recommended than poultry-keeping. In the majority of cases it is decidedly profitable; in every case (leaving aside reckless and blind incursions into the realm of show-bird breeding) it pays very thoroughly its way. For this, perhaps, more than any other reason, it appeals to working-men and others with no money to squander immoderately. In addition, nothing can be more conducive to health than the outdoor exercise associated with poultry-keeping. In this respect it easily beats golf, while it lacks the back-breaking so intimately connected with gardening.

When utility poultry is taken up—and the beginner

should most certainly master the management of ordinary fowls before his ambitions lead him to aim at the breeding of birds for show—the initial cost is by no means heavy. Usually a disused out-building is available for housing accommodation and failing this a new house to accommodate a dozen fowls can be procured ready-made for a five-pound note. The birds themselves can be bought for ten shillings to a sovereign each, and if purchased at the right time and of the right age, they will begin to produce eggs at once. By the use of the scraps from the table the feeding bill can be kept down considerably and profits thereby increased.

It is, however, advisable for the beginner to avoid the purchase of cross-breds and nondescripts. Pure-bred specimens cost only a little more in the first instance, and are of much more attractive appearance. Even when utility purely and simply is the point aimed at there is something in the joy that goes with the possession of a bird worth looking at—this is only inferior to the joy that is realized when the beginner gathers, and subsequently relishes, the new-laid egg in all its pristine freshness.

Now exhibition poultry is entirely another thing. It is, of course, manifestly no dearer to feed a bird of aristocratic lineage and appearance than its more plebeian-looking relative, but the start is decidedly and assuredly a vastly more expensive affair. But altogether unconnected with the mere matter of looks and coincident pride of possession, there are other advantages which show-birds possess over purely and frankly utility stock.

Apart from the initial cost, the upkeep and extra incidental expenses are relatively small, and as a big

set-off against these, there is the additional interest. To anyone possessed of the merest pretensions in the way of æsthetic taste the matter of looks alone is sufficient. The breeder of laying fowls, after the first gusto of possession, considers them as so many automatic egg machines, and in rearing the chickens can only watch their growth and note the relative earliness with which each bird turns out its first egg.

But the breeder of fowls for show is in entirely another boat. His interest (and it is a mighty big interest at that) lies in watching the development of each bird from an exhibition point of view, the increase in beauty, the improvement of minor deficiencies of shape or headpoints; in short, the slow unfolding of nature, which tells the fancier whether or not a specimen will be fit to compete at the shows for kudos and cash.

Here eggs are not the beginning and end of the thing. They are there of course and likeable and prized enough, but very emphatically is there something of altogether enhanced interest and value—the production of the super-fowl. Imaginable in all its bigness is the pride of the breeder when he has won the first prize at a local show. And this is but the beginning. Ambition in its first steps duly realized, a longing to conquer fresh and more difficult fields is bound to manifest itself, and the breeder forthwith aims at the big London events with their keenly-competed-for prizes and hugely coveted cups. With the lifting of these, fame follows quickly enough, and with the making of a name comes a demand for show and stock birds at prices highly remunerative.

Now the start is of an importance seldom realizable by the beginner. It is, in strict truth, a bit more than

half the battle. In this connection I am not at this juncture considering the professional, whose main object is the making of money, but the hobbyist pure and simple who, while incidentally not averse to the accumulation of hard cash, is primarily taking up poultry-keeping as a spare time avocation with intermittent tilts at fame and the incidental gathering of trophies.

In this way he is free to select whatever breed or variety has taken his fancy, and as a help in this direction it is advisable to pay a visit to one of the big poultry shows where specimens of most of the different breeds are on view.

Peculiarities of climate and environment must of course be taken into careful consideration in this matter of selection. Obviously a white variety is unsuitable for a manufacturing district; while a feather-legged bird is out of its element on damp, low-lying ground. Any aspirations (and they occur to most beginners) of trying two or three different breeds should be firmly and utterly squashed—one breed at a time is enough for any ordinary mortal, whether practised hand or veriest tyro.

Having settled on one particular brand of hen, the procurement of initial breeding stock is a matter calling for considerable niceness and discrimination.

Better not start at all than start with rubbish. Reliable breeding stock, particularly of the more popular varieties, is necessarily expensive, and for this compelling reason, where funds are limited, any desire for a number of birds must be comfortably buried and the whole available cash expended on a trio, or even a pair, of birds.

Quality is everything where exhibition poultry is

concerned ; it is the whole aim of the breeder. Quantity can be obtained easily enough and can be seen anywhere, but as often as not where birds are flourishing in numbers there is precious little to be found in the way of quality.

The beginner should take vast care to deal with a breeder of repute. Only in this way can he avoid or minimize the risk of being rooked. Gaudy advertisements, offering show-birds at the price of utility specimens, should be studiously ignored.

There is another mode of making a start which appeals to many beginners, and in particular those whose pockets are a long way from bulging with clinking metal. I refer to the purchase of eggs for hatching. This method, while frankly and unmeasurably inferior to the purchase of even a lonely pair of stock birds, is of course a good deal better than putting off the start indefinitely. Although being somewhat in the nature of a gambler's throw, there are many instances where a lucky purchaser has obtained a Crystal Palace winner out of a guinea sitting. But coincidently there are many thousands of others who have failed to get a winner at all. And at any rate it is advisable not to build unduly on the prospect.

CHAPTER II

POULTRY KEEPING AS A PROFESSION

IN the previous chapter I have been at some small pains to point out that it is overwhelmingly advisable for anyone who has the remotest conception of ever taking up poultry-keeping in any one or all of its branches as the sole or main means of earning the butter for one's bread, to graduate as a hobbyist. Let there be no misunderstanding on this point. It is not that I am of opinion that the knowledge gained through keeping a few fowls is going to be of inestimable value to anyone in the ambitious project of running a poultry farm on a big scale. It is not going to be any such thing—in point of fact it may very well prove something decidedly the reverse. But it will, or should, have given the tyro a sufficiently clear idea as to whether or not he will like hen-farming as a business. In any case the points which I am about to emphasize in this chapter apply in their gigantic truth to the one with some slight knowledge of poultry culture just as much as to the one with none at all.

Now in the first place it is well to clear the ground of one or two wide-spread illusions. Firstly, the average annual profit obtained from hens kept in a back-yard bears not the slightest relation to the average profit from huge flocks kept on a farm. If it did, every poultry farmer would speedily become a millionaire of sorts. Secondly, poultry-farming is not

a lazy man's business. It calls for a rigid adherence to work long after the followers of most brands of labour have planted themselves in the stalls at a music-hall ; it recognizes neither religious festivals nor closing days, it is a fifteen-hours-a-day job for six months out of the twelve and a nine-hours-a-day job for the other half-year. And let it not be thought for the fraction of a minute that it is the kind of work that can be left in the hands of others. More than in any other business under the sun is close personal attention necessary to success.

Prosperous business men with opinions as to their capabilities big in them and acting on the assumption that the systems which have proved such glittering successes in their own particular lines will, if applied to poultry-farming effectively, do the trick just as thoroughly and easily, have discovered disconcerting truths to their everlasting regret.

Constant personal supervision by the owner himself, who, in addition, knows the whole game, is absolutely essential. The man who leaves the entire running of the farm to hired help is asking for trouble that he speedily gets. Not that the man who will conscientiously and religiously ante up every solitary farthing does not exist ! There are for the finding men of this stamp, but the number is a relatively small one. Human nature being what it is, there is a species of unreason in the man who honestly expects an employee to hand over, like the good little boy in the book, every solitary egg produced. It must ever be remembered that there is and can be no sort of check on the thing. Short of surreptitious visits to the fowl-houses, there is no possible way for an owner to prove whether on a large farm two hundred or one hundred eggs is

the tally on any one particular day. And there are a dozen other ways in which a none too scrupulous employee can fleece an absent owner with an ease as vast as the fear of detection is slight.

The work itself is not of the brand that leads to excessive perspiration, but it is never-ending, it ties one up with prison-like thoroughness, and on occasion it drives one to helpless and splenetic profanity.

The life of a poultry farmer is healthy to a degree, and if after two years it has not hopelessly ruined one, there is the possibility of making a comfortable living and with enormous luck gathering together sufficient lucre to be able in one's old age to dispense with the Government pension. But if anyone is imbued with the idea of becoming a pocket Rockefeller he will be well advised to run from a poultry farm as if his tail had caught fire, and start in decided preference a fried fish business.

There is, however, more particularly in the exhibition side of it, a fascination which is very essentially all its own. It possesses all the elements of interest associated with continual excitement. Its surprises are constant and invigorating, ranging from the pleasurable drum-banging and shouting after victory, to the glowering rage associated with dismal failure. It brings one into personal contact with all types, conditions, stages and ranks of society, affording unequalled opportunities for studying mankind; and entails, often enough, much travel, pleasurable and otherwise.

CHAPTER III

THE COMMERCIAL SIDE

In its essentials, what is known as commercial poultry-farming is the only branch of the industry which has a real and solid business foundation. It relates solely to the production of eggs and table fowls for edible purposes, with the side-lines of feathers and manure. Strictly speaking, when you go beyond this you leave the realm of commercialism and enter something dependent on whim, fashion and a dozen other considerations. An egg for eating and a fowl for a like purpose have always their marketable values, dependent only on the fluctuation of supply and demand and the influence of foreign competition. But coming to exhibition birds, there is no stability at all—the value of the bird depends on its ability to win a prize, on the exact position in the scale of popularity of that precise brand of hen at the time, and perhaps more than any other mortal thing on the fame and standing of its owner. Essentially is the exhibition side of poultry-breeding an individual business, if it can be called a business at all, as it cannot be transferred to other hands as a commercial farm can—with the death or retirement of its owner vanishes swiftly the whole structure. In a lesser degree is this true as regards utility poultry-farming, for here again, though not to the same marked extent, the business is stamped with the individuality of the proprietor.

Now the running of a commercial poultry farm is a matter of immense difficulty and usually ends in dismal failure. Indeed before the world war it was considered a sheer impossibility for anyone to make a living from commercial poultry-farming alone, and except as a hobby for rich men the thing was non-existent. Passing over the years of war and also the feverish twenty-four months immediately succeeding (these abnormal times marked by the ability of the public to pay any price asked and the entire absence of foreign competition do not affect the issue one jot) there is undoubtedly a certain degree of improvement, and while I would not say it is to-day an impossible expectation to make a living from commercial poultry-farming, I am inclined to the opinion that the living will be a precious slim and insecure one.

The industry suffers as no industry in the whole world suffers or ever did suffer through the competition of countless hobbyists. The price of eggs and market poultry is fixed, unwittingly it is true, by those who are not dependent on poultry for a living and whose position as regards profit-making is an exceptionally favourable one.

The market price of new laid eggs does not in the case of large poultry farms allow a sufficient margin of profit over the cost of production ; whereas in the case of backyard and small poultry-keepers it most emphatically allows such a degree of profit as to cause them to rub their hands with excessive joy. Paradoxical as this may at first sight appear, five minutes' reflection will show with crystal clearness how such a state of affairs is not only to be expected, but is plainly unavoidable. The hobbyist, as also the general farmer, have well nigh incredible advantages, with never so much

as a cent to put down for rent ; with nothing in the way of expense as regards housing, the birds sleeping in a coal-house or a barn or a structure made out of old sugar boxes ; labour thrown in as one of love or simple duty as the case may be ; little enough in the way of actually purchased food, the scraps from the table sufficing for a handful of fowls ; small wonder that the eggs are produced at phenomenally low cost ; small wonder that the poultry run is something in the nature of a miniature gold mine. And this is happening not in one isolated corner here and there, but in wellnigh unimaginable and certainly uncountable cases throughout the marches of these islands of ours.

Precisely the same thing, only on an even more generous scale, is happening in Holland, in Denmark, in France, in Norway and Sweden. And to such tune is it happening in these several countries that they can ship millions of surplus eggs to these islands at prices yet more ruinous to the business of the British commercial egg-farmer. Now it is precisely owing to this position of affairs that the remarkable fiction gets abroad that poultry-keeping is inordinately profitable. These back-yard hen-keepers, making with the smallest recognizable effort as much as, on occasion, one pound a year per head from a matter of a dozen birds, sit down and by dint of a little simple arithmetical calculation prove to the absolute conviction of themselves and their cronies that, given sufficient land in the country they could make illimitable thousands a year with ease and certainty. One hen gives a pound a year profit. One thousand hens would make ——— ! It is the merest child's play ! The requisite capital to purchase the initial stock is

the only restraining factor. And for countless would-be poultry-farmers this lack of capital is very decidedly something, did they know it, to be devoutly thankful for.

When the birds themselves have to bear the rent of the farm, the interest on capital invested in equipment, the constant expenditure on upkeep, the heavy cost of labour, and a hundred and one incidental expenses, the matter is put on an entirely different footing, and the pound per bird per annum net profit dwindles and flies until five shillings is a good deal nearer the mark.

In no other business that has come to my knowledge does such an extraordinary state of affairs exist. For in no other business does amateur competition outweigh and put on one side the professional element. Such has been the position from the beginning of time, for it must be remembered that it is only during comparatively recent years that poultry-keeping has been seriously looked upon as a business. And these remarks in their disconcerting and profound truth apply to every civilized country on the face of the earth.

It will be readily seen that with profits cut down to well within reach of vanishing point, the commercial farm can only be made to pay by the exercise of the most rigid economy and by the closest attention to details. That the situation of the farm should be within easy access of good markets is vital. In this connection nearness to London, to any large and prosperous provincial town, or best of all to some flourishing seaside resort, is advisable.

The farm itself must be arranged so as to save the expenditure of unnecessary labour. The laying-

houses, while well built, need neither extraneous decoration nor interior elaboration; the food, while plain, substantial, sufficient, and properly balanced, should not be of the luxury brand. Laying meals, dry mashers, grain mixtures, chick feeds, should all be mixed at home and "fancy" mixtures advertised under various enticing names at extravagant prices, may be left for use on the hobby farms of rich and patriotic amateurs.

No ornamental or fancy breeds must find lodging places. Pure-bred fowls are advisable, and those, too, of good laying strains, the power of heavy egg-production being strongly hereditary. White Leghorns, Anconas and La Bresse are strongly recommended for purely egg-producing qualities; while Rhode Island Reds, Sussex and White Wyandottes, in addition to their laying powers, have table properties to commend them. Only the selected, the strongest, the most vigorous specimens must be bred from; the greatest care being taken that they are fully matured, a twelve-months old cockerel with hens in their second season being the best mating. The layers, after two seasons production, must be ruthlessly scrapped—they do not pay for commercial egg-production after that age.

Every cockerel not intended for breeding purposes must be killed at the earliest possible marketable age, and all the youngsters should be hatched as early in the year as possible—it is the January to March hatched cockerels that sell for remunerative prices. Only by watching these points with exacting and meticulous care can commercial poultry-farming be made to pay.

Ducks and geese, especially the former, where

circumstance, environment and markets are favourable, may be added to the stock with manifest advantage. Turkeys, except where the land and climatic conditions are especially favourable, had better be rigidly left alone.

CHAPTER IV

THE UTILITY SIDE

COMPARATIVELY new is utility poultry-farming as we know it to-day. As a matter of fact, the business sprang into existence at the tail end of the last century, and after stagnating somewhat through many years was wafted into vast prominence and became a big and serious affair during the years of war. Since the first actual blaze of popularity, it has flourished exceedingly and to such a remarkable tune that utility classes at shows are to-day better supported than are those in the purely exhibition sections. The development of utility poultry-farming is indeed by way of being remarkable. The invention of the trap-nest, rendering it possible to separate with mathematical accuracy, the good layers from the bad, the holding of innumerable Laying Competitions, and the origination of various methods of selecting good and bad male breeders of layers, have all had a good deal to do with the thing.

Now in starting a utility farm, in the matter of breeds one is naturally very much restricted, for it is manifestly absurd to take up any frankly ornamental fowl. It is equally useless to bother with an unpopular variety. Its laying qualities may be phenomenal, but unless you are in a position to drum this fact into the ears of a sceptical public (and a beginner is of course a mighty long way from being in any such position)

you are merely wasting your time and money in so much as tinkering with it. The public has decreed that certain varieties (and the number is surprisingly limited) are excellent utility fowls ; that the rest are mere pretenders ; and by this decree the beginner, if he wishes to make headway, must abide. At the head of the list is the White Leghorn ; following some way behind, and running practically neck and neck are the Rhode Island Red and White Wyandotte. Then come the Light Sussex, the Ancona, the Australorp, the Barnevelder, the Black Leghorn.

Unlike the novice exhibition breeder, who, granted any sense, will wed himself to one lone variety, it is advisable that the budding utilitarian should select two or three of the above-named breeds, preferably those first mentioned. Stock birds of good pedigree and with decent egg records behind them should be purchased from a breeder of repute, but there is not the slightest need to buy actual competition winners or others so closely related as to be of ridiculous and ruinous cost. With these as the foundation, a strain can be established. Every breeding bird must be rung with a numbered leg band, trap-nested and a careful record kept of its performance.

In utility breeding, pullets are never mated, but are trapped during their first year and by their records the best are selected and used for breeding purposes.

The next step is to get a name which in utility as in fancy poultry breeding is very nearly everything. The only means are the winning of Laying Tests and the securing of prizes in utility classes at the shows. By far the better, more satisfactory and infinitely more telling method is to secure high positions at the Laying Competitions. These tests vary considerably

in duration, number of birds competing and are held in different parts of the country. Luck enters a good deal into the matter—the illness of one solitary bird will ruin the chances of the whole pen. For this reason it is advisable to enter two pens, or even three or four, as of course the more pens a competitor enters, the better chance does he stand of winning with one of them.

Showing in utility classes is essentially a lottery. The judging is by a system of handling, complicated to a degree, and as likely to lead to the selection of the worst as the best layer. The only way is to select the bird or birds deemed most likely to suit the idiosyncrasies of the judge who is officiating, and hope for the best. Constant attempts will lead to success sooner or later, and the many failures can be conveniently forgotten. It requires a wonderful optimistic and persistent spirit, this showing of utility specimens, and in addition a philosophic way of looking at the ups and downs of exhibiting and the vagaries of judging which lead to a bird shown a dozen successive times receiving every possible form of honour and position, including the damaging one of nothing at all. Granted the possession of wins at Laying Tests or utility shows, or at both, the drum of publicity must be banged loudly and consistently. No possible form of advertising must be neglected. In addition to the orthodox methods of publicity, every chance must be seized of getting one's name into print in connection with the cult of utility poultry. News paragraphs, letters to the press, photographs of one's birds, or of the farm, or of oneself; every legitimate form of advertising must be availed of.

In addition to the selling of stock birds in the

autumn and winter for breeding purposes, which is the main and most remunerative part of the utility breeder's business, full advantage must in addition be taken of the eggs-for-hatching and day-old chick branches of the industry. The prices one can get for eggs and chicks are almost entirely dependent on the fame one has gained as a breeder ; a skilful use of the press as a publicity agent having also its value.

CHAPTER V

THE FANCY SIDE

IF the reader has not already clearly gathered the idea that it is nothing less than sheer idiocy for any beginner to plunge into poultry-breeding for exhibition as a business, it is not from any lack of the telling. Although there are those who depend entirely on the breeding and showing of fowls for both bread and butter, the number is decidedly limited, and indeed could be pretty well tallied on the fingers of one's two hands. They are, moreover, these successful few, men whose names are household words in the fancy, and whose positions are as secure as they can pretty well be. But, in addition, there are hundreds of hobbyist fanciers who make substantial additions to their incomes out of exhibition fowls, and again there are thousands who make nothing at all.

Fundamentally is exhibition poultry-breeding a hobby, or a side line. It has not any such thing as stability in the sense that the average business man understands the meaning of the word. Its products have no fixed value. The worth of an exhibition specimen bears not the slightest relation to its intrinsic value and there is no rule or method for getting at its precise value—which in bald truth is precisely what the reputation of the owner justifies him in demanding ; or what the anxiety of the purchaser to own the specimen leads him to offer. That advantage is often



3. ROSECOMB ANCONA HEN.
Winner (1st), Crystal Palace and Olympia, 1923.
Bred and owned by A. Rice, Esq.



4. BLACK DRESSE COCKEREL.
Winner (1st), Crystal Palace, 1923.
Bred and exhibited by Mrs. Onslow Piercy.

enough taken of the enthusiasm of the amateur, or of the ignorance of the beginner, is only to be expected.

It is for this very reason that the poultry fancier has earned for himself a reputation for unscrupulousness and downright dishonesty that a common pick-pocket would blush to own. And I am free to own that in not a few cases such a reputation errs if at all on the side of leniency. It is not that poultry fanciers individually or in the aggregate are one jot worse than their fellow-men ; it is simply that the walk in life into which they have strayed, offers remarkable and exceptional opportunities for dishonest dealing in a legitimate and impunitive way. Grocers who would without hesitation sell margarine for butter are prevented in the main by the ever-present fear of detection ; but fanciers who like to label eggs from barn-yard mongrels as the produce of cup-winning specimens can do so to their hearts' content and treat the indignant complaints of disappointed customers with vast and easy disdain. The vagaries of nature cover up almost every possible form of fraud ; the unscrupulous know this and take advantage of it to the full.

Now although no one is advised to even so much as think of the fancy side of poultry-breeding as a career, there is no mortal reason why the commercial or the utility breeder should not run it as a side-line, while, as already pointed out in a previous chapter, it is a most interesting and may on occasion become a vastly profitable hobby. It is only by these initial steps that it can in rare instances develop into a means of earning a livelihood.

But whether the beginning in the fancy starts with this ultimate, if remarkably far distant, end in view,

or whether he is simply out for the fame that is associated with the accumulation of cups and medals, much care must be exercised in the selection of a breed. And let it be here stated with precision and emphasis, that one breed or variety is very thoroughly enough for any beginner.

Now the novice whose ambition is not so much the attainment of any big position in the world of poultry or the making of money, as the accumulation of a batch of prize cards and medals in the quickest possible time and with the least expenditure of skill, energy and cash should most certainly select one of the neglected breeds. Not that his task is by any manner of means easy here. But the novice stands an infinitely better chance of coming out on top quickly in a breed like the Campine, the Croad Langshan, the Rhode Island White, the Bresse, the Faverolle or the Orloff, than he does with the White Wyandotte or the Black Orpington.

Again, there are some of these neglected and newer varieties that offer to a certain type of beginner exceptional opportunities. If he selects the right one (a matter this by the way, of much niceness) and possesses the ability and energy to boom it successfully, he can climb with the pace of a giant to the very apex of the temple of fame. But not to everyone is granted the requisite qualifications for such a task, involving as it does a detailed, precise and infinite knowledge of the art of publicity, accompanied by journalistic ability of sorts. And because of these very special abilities that are plainly and abundantly essential—the actual booming of a breed must of necessity be left in the hands of the one who is capable of undertaking it. But there is no manner of reason why the ordinary

beginner should not seize the opportunity thus provided and specialize in a breed which is in process of booming. Indeed the earlier in the race one can get a position on the track, the better and coincidentally the cheaper running will be made. In a new breed that happens to be in process of booming, specimens are relatively cheap, and, in addition, everyone starts on pretty nearly the same level. No better method exists than this, but unfortunately it is not given to every beginner to have the opportunity.

Moreover, one may very easily find the anticipated boom turn out to be no more than a fizzle; for any one of a dozen reasons it may, after the first feeble splutter, quickly die, as did the Red Orpington; it may have a short rocketing boom, followed by a sudden collapse, finally lingering in mortal agony, as is the Orloff. And unfortunately there is no means whereby the beginner can foretell matters. The sound premise that a breed possessed of utility properties in combination with good looks may be confidently expected to appeal to the public is by no means borne out by facts. There are many such breeds, of which the Campine, the Lakenfelder, the Buttercup, the Faverolle, are pointed examples, that have failed dismally. In strict accuracy, although to ensure lasting popularity a breed must possess the combination stated, this in itself is not sufficient.

The main secret of a breed's success lies in the handling of it. The booming must be carried out properly, thoroughly, and consistently, and the reason, in the overwhelming main, for any breed's non-success lies in the bungling on the part of its publicity agents.

It is, however, abundantly clear that unless the beginner is convinced of his special abilities in the way

of booming, it is sheer waste of time and money for him to take up an unknown breed. For manifestly it would be absurd to rely upon someone else coming along and doing the work.

Turning then to the case of the average novice, who in addition to mere kudos, wishes, either through inclination or bald necessity, to make his hobby pay, his plain course is to select some particular brand of hen that is well to the forefront in the matter of popularity. Such a breed is in big demand and specimens fit to win at the classic shows fetch sensational prices.

For a man whose fame is already established and who has to his credit many show-pen victories with specimens of this particular breed there can be little question that his profits are considerable. But the unknown novice is in quite a different street. He is severely and almost hopelessly handicapped in the race to fame. Any serious attempt to enter into competition in the show-pen (which is of course the first step) with established breeders involves the expenditure of much cash, and the retention of any position hastily gained in this manner entails the continual pouring out of gold coin, or its equivalent, until experience has been gained and knowledge secured. This, it may be mentioned in passing, is the method usually adopted by wealthy amateurs who are in search of fame at red-hot speed.

The beginner of limited means therefore must be content to tread warily—he can do no more than gingerly feel his way on a path bestrewed with unexpected obstacles and yawning pitfalls at every second step. Nor must it for one single moment be thought that any popular breed is a suitable one for a beginner.

Many an one there is which is very thoroughly cornered by a clique, the members of which take mighty good care to keep every specimen of superlative merit in their own capable and grasping hands. The amateur, except by the ceaseless use of his cheque-book, has the remotest shadow of a chance. In others, their successful exhibition requires the combined skill of a surgeon and a chemist, and the novice labouring under fearful and unknown disadvantages, plods on his weary way showing his birds as nature turns them out and vainly competing with specimens whose wonderful and superb appearance is in the main the result of secret and jealously guarded methods of preparation.

But only to a few varieties do these remarks apply. Several there are where the novice, far from meeting with a hostile reception, is frankly welcomed and generously helped. The Rhode Island Red, the White Wyandotte, the Light Sussex, the Black Leghorn, the Ancona, the Campine, the Orloff, the Jersey Black Giant, all offer exceptional facilities to the beginner. Not one of them is in any sense of the word cornered, not one offers exceptional difficulties in the way of preparation for exhibition, every solitary one is eager for new recruits and offers to the beginner every kind of assistance and help possible. The actual choice depends on personal taste, environment and climatic conditions. For instance, the White Wyandotte and the Light Sussex are eminently unsuitable for smoky districts, while the Black Leghorn and the Ancona have flying powers of a remarkable order and call for vigorous measures of restraint.

CHAPTER VI

JUDGING AND OTHER SIDE-LINES

THE art of judging is very assuredly one of the least understood and for this identical reason is it the most fiercely criticized. As the poultry fancy is at present constituted, judges are divided into two classes; specialists and all-rounders. The one abuses the other with vehement and considered force; the exhibitor, who does not happen to be a judge at all, abuses both with fine impartiality and commendable equality of invective.

Now it is ridiculous to assert (as the all-round judge does most emphatically assert) that the specialist is not in an infinitely better position to place in strict order of accurate merit the specimens of a breed in which he has been exclusively interested for a matter of years, than is the judge whose acquaintance with and knowledge of that particular breed is necessarily sketchy and insecure. It is further equally ridiculous to assert that the specialist is of necessity a faddist. He may be and very often is, but just as often is the all-round judge, in the strict and literal meaning of the term, a faddist.

The exact truth of the matter is that there are in existence not a few judges, both specialists and all-rounders, who do not possess the essential abilities for quick and accurate judgment. More and further, it is frankly impossible for any one man to correctly

place the several distinct and widely opposed varieties that go to make up the modern show. He may understand in detail two or three or even, on occasion, as many as half a dozen separate and distinct breeds, but of the remaining half a hundred he can have no more than a nodding acquaintance. So long, however, as it remains manifestly impossible for the average show to appoint specialists for every variety, this evil must be tolerated.

The present system (or lack of system) of making judges is unsatisfactory and paralogical to a degree. It arises to a very big extent from the widespread idea born in the mind of every exhibition breeder of five minutes' experience, that he is ordained by nature, by education and by experience, to be a competent and skilful judge. And the public, in its colossal ignorance of the most fundamental principles which underlie the art of judging, has decreed that the successful exhibitor must of necessity be a shiningly capable judge. Specialist judges are in the main elected by public vote or privately by the concurrence of a select body of exhibitors, while all-round judges are appointed by the local show committees composed almost entirely of neighbouring fanciers.

There can be neither doubt nor question that to the majority of persons it possesses a tremendous fascination, this intermittent holding of the office of judge. It is, in bald truth, this precise fascination that makes such a host of people, many of them monumentally unfitted for the task, so inordinately keen on flourishing a judging stick. It cannot indeed very well be anything else for the position on the overwhelming majority of occasions carries with it little enough in the way of monetary remuneration,

and in every single instance does it—whether merited or not—earn the assured reward of much loud-voiced and scathing criticism, not unaccompanied by a generous sprinkling of vigorous abuse.

Knowing all this full well one wonders where precisely lies the fascination which causes dabblers in fancy poultry to cultivate the hide of a rhinoceros and the nerve of a mob-orator. There are, of course, certain very obvious and not-to-be-overlooked advantages. As a very big start there is the peacocky feeling that goes with decoration of any kind; there is the sure knowledge that for once in one's short life neither king nor emperor nor president has greater power in a certain particular little world (precisely how little and how restricted it really is can be very conveniently forgotten). In addition, there is the satisfying fact that the name of the judge appears in tolerably large type amongst the news items in the local press, and blazes forth in all its majesty from the pages of show schedules and catalogues. Possibly there may be other advantages, but at the moment they fail to occur to me.

The statements of onlookers notwithstanding, judging is not by any manner of means the ridiculously easy thing it looks. Manifestly it should not be, though assuredly it often is, very lightly undertaken; much in the way that a successful tradesman accepts an invitation to make a speech. Not to everyone has been handed out the judging instinct. The majority of poultry men (and women, too, for that matter) think they can place the cards every bit as well and possibly a good deal better than the other fellow.

There was a time, and it is not so very long ago, when the judge was looked upon as something in the

way of a little tin god. He sat complacently on a pedestal (maybe of his own making, but that mattered little); he looked for a good deal of respect, and got it too. He was very essentially the big man of the show and his explanations, did he see fit to give any, were listened to with vast attention not unmingled with awe.

But in these enlightened days of universal, free, and expensive education all this has been very thoroughly changed. Every second onlooker, positively bursting with knowledge, could, to hear him talk, have handed out the prizes with a good deal more precision and accuracy than the appointed judge. The awards, as given, are pulled to primitive shreds by critic after critic, the judge himself is talked to with surprising candour, and often enough given thoroughly to understand that he would have been far better and more profitably employed had he stayed at home and milked the cows.

There are those who would argue that much general and widely-expressed dissatisfaction is a sure indication that the judge is conspicuously incapable. Not by any means, however, is this so. For strangely enough, and at the same time most unfortunately, there is no method extant by which a judge can be clearly proved incapable. He may be, and indeed very often is, decidedly unfit to judge, but for anyone to prove this unfitness is entirely another matter. Dissatisfaction with the awards proves not one solitary thing—if it did there is very emphatically not a judge to be found throughout all the marches of Britain who could hold his job for so much as a single year. Nor does strongly expressed approval prove anything at all. The successful and satisfied exhibitor will always

gratuitously back up the judge's awards with noise and decision.

Now there are certain definite essentials to quick and correct judgment, and it is not every man who can be depended upon to trot them out. The power to bury, sink or ruthlessly tread underfoot, when judging at any rate, every atom of conscious prejudice, is the first, the most important, and coincidently the most rare. Unless these personal prejudices, which in most mortal men are developed to a really remarkable degree, are cleared as thoroughly and resolutely out of the way as is humanly possible, it is manifestly infeasible for anyone to place strictly in their order of merit the several birds which come before him.

Allied to some extent to the necessity for this submerging of prejudice, and only one whit less important, is the possession of a strongly developed and ever-present sense of proportion. With mighty few exceptions the specimens that come before a judge bristle with defects. The task of the judge (and it is no easy one) is to weigh carefully the one fault against the other.

Here it is with a vengeance that his sense of proportion steps in with a big and important foot. Although a standard of perfection is by way of being a remarkably useful thing, it fails most miserably and lamentably in some important respects. It is, owing to the limitations of even so rich, so extensive, and so ramifying a language as the English, bound to give rise to many and varied interpretations. It describes, as well as one can describe on paper, an ideal specimen; it gives, in addition, either directly or by implication, a general and circumscribed idea of each specific defect; but it assuredly does not tell the judge in

what exact order he is to place a number of specimens waving in plain view any or all of these several defects. It is precisely here that the ability of the judge comes into full and important play. He must consider with vast care these several defects, arrive at their relative importance, and then hand out the prizes accordingly. It would be a matter of surprising ease to judge a class of approximately perfect birds; it is difficult beyond description and calls for a good deal of niceness, this placing in exact order of merit a collection of palpable misfits.

Coming to actual methods of judging, these are as widely dissimilar as they are numerous. Unquestionably the best method is the one the judge himself prefers, provided it does not unduly lengthen his task. For, apart altogether from any consideration for anxious exhibitors awaiting the respective fates of their birds, no advantage is to be gained by everlastingly frittering about over a class, however big it may be, for hour after hour. In point of fact there is a good deal to be lost, for a pretty muddle the judge finds himself in at the finish.

The first impressions of a capable observer are priceless, and when going through a class for a second time those self-same first impressions should be bigly remembered and taken into careful consideration. One can look at a hen, a horse, a man, or even a woman, until one begins to excuse, tolerate and even overlook altogether faults which were manifestly evident at the first critical and appraising glance.

It will be noted that no consideration has been given to utility judging which, in its vastly developed modern form, presents one of the most paralogical manifestations of the prostitution of an art ever recorded in the

world's history. In the case of utility specimens, or in other words, birds possessing laying and table properties, a judge can, through an observation of outward indications of health, vigour, fitness and apparent anatomical capacity, place the birds before him in order of merit. So far can he go and not another solitary step. The further graduation by means of mathematical measurements, mysterious grabbings and palpations, has precisely the same relation to the true art of judging fowls, as the charlatanic legerdemain of the palmist and phrenologist has to the true science of the physiologist.

Journalism.—The poultry industry carries with it a number of journals devoted exclusively to its interests, while a section is regularly devoted to fowls in a considerable number of weekly and daily newspapers. These various organs provide constant employment for a handful of journalists, and, in addition, publish occasional articles and reports from the pens of numerous others. So long as these articles are informative and interesting, no literary skill or style is required and their composition is not beyond the capacity of the product of the average elementary school. Show reporting, consisting of a short and succinct critique of each of the prize-decorated birds, provides a side-line for a number of judges and exhibitors, but seldom comes the way of the average breeder. Poultry journalism, in the overpowering main, can, however, merely be looked upon, even by those most fitted for it, as a sketchily profitable avocation.

Pupils.—During recent years the business of teaching poultry-farming to youths, maidens, old men and old women, has assumed considerable proportions, so much

so indeed, that there are in existence poultry establishments where it is to be expected that the pupil department is the most, if not the only, profitable section. The courses range from three to twelve months and the contracting payment varies considerably, in some cases a weekly fee, covering tuition, board, etc., being charged ; while in others, one lump sum called a premium includes the whole term of tuition. The latter method is to the poultry farmer by far the more appealing and desirable, as it obviates any loss through the risk (a very considerable one) of the pupil tiring of the thing at the end of the first month. The capabilities or qualifications of the teacher would seem to be of much less account than the charm of his habitation, farm and immediate surroundings. Hunting, fishing, and shooting prospects, nearness to golf-links and tennis courts, and incidentally the poultry, are the main essentials ; good cuisine and home comforts, too, being of no small importance. In the ordinary way, the taking of these pupils constitutes a side-line, and as such I have considered the matter in this chapter, but on not a few modern farms I have more than a suspicion that a different description would be much more in accordance with strict truth.

CHAPTER VII

THE ETHICS OF SHOWING

IT will be well to admit at the outset, and with as good a grace as is humanly possible, the disconcerting fact that rectitude in the literal interpretation and finer meaning of the word is not only non-existent, but plainly unattainable. In the heaven, visionary and nebulous though it be, to which, since the dawn of Christian religion we have been accustomed to look for perfection itself, it is conceivable that strict rectitude may exist ; but in the world as it is, no good can accrue from closing one's eyes to the obvious. With an inconsiderable number of exceptions, manufacturers, merchants, shop-keepers, lawyers, parsons, and politicians, misrepresent or cheat or bribe just so far as they can safely do so without becoming caught in the talons of the law ; and, to a lesser or greater degree—according to the opportunities presented to each by his particular trade or calling. Such is human nature, that the ability to invent palliatives increases inordinately, and with each fresh incursion into the realms of dishonesty, a similarly new standard of morality is unconsciously defined.

To a very big extent much of the confusion arises through the persistence with which mankind in the vast majority confounds honour with morality.*

* Morality, in direct opposition to the popular idea, is not constant and unchangeable. In reality it is neither more nor less than an elaborate code of rules formulated by one section of society

The two, so far from being in any way synonymous, are as widely divergent as the poles. I have known honourable men with morals rotten to the point of stinking. It is belief in a man's honour that leads one to allow him, as a guest, free access to one's most treasured possessions, but by no means is it certain that this self-same man of honour will not annex an ash-tray that takes his fancy in the lounge of a hotel. Whereas the man of strict morality would be equally trustworthy on both occasions, though he might conceivably betray his best friend or lie like Ananias in the cause of patriotism, or religion or ochlocracy.

This subject is a big one, and it is no part of the aim of this particular book to go into the question of good and evil, but sufficient has been said to show how complicated a matter is even common honesty. It is eminently difficult, for reasons mainly dependent on the foregoing, to draw with any pretence to accuracy, or rigidity, the line between what constitutes legitimate preparation for show and what crosses the border-line into the dangerous region of faking.

Now my whole aim is to treat this matter of faking on a straight and logical basis. In the hypocritical world we live in, the truth is never liked and it is for this very thorough reason that the most diligent search throughout the literature (*sic*) of poultrydom on two continents has failed to unearth so much as a solitary writer who

for the guidance of the other and vastly larger section ; authenticated and ordained by religion and tradition. Thus morality is extraordinarily mutable. The gulf which separates the morals of to-day from those of ancient Greece is as wide as that which divides those of Bolshevik Russia and Christian England. And a minute's reflection will show how nature itself, judged from present-day standards, is grotesquely and abundantly immoral.

has had the courage to face the matter. The result is a position of infinite badness. There is a hard-line division whereby poultry-keepers are split into two camps, in one of which, either through child-like innocence or through the invention of palliatives, the belief is current that faking does not exist ; and another, the constituents of which are most thoroughly convinced that no exhibitor can gain a prize with an honestly-shown exhibit. The one is as wide apart of the mark as is the other.

In strict truth anything beyond mere washing to remove the dirt from head, legs, feet and plumage is a species of faking, but the average fancier appears to hold a totally different view, and the elasticity of his opinions somewhat naturally increases with his years of experience ; with the result that there comes a time when what in the days of novitiate loomed up as a dire and dreadful thing, is glossed over as the merest of mild peccadillos. The subduction of stubs from a bird's legs, the careful removal of a side-sprig, the extraction of a foreign-coloured feather ; are insufficient to bring a blush to the cheeks of a Sunday school superintendent. And yet the self-same person who looks upon these matters as part of legitimate show preparation would raise both hands heavenwards in outraged horror and indignant disgust at the ghost of the idea of bleaching the plumage of a white bird, or dyeing that of a red one. To the logician, the raising of a distinction smacks of splitting hairs ; to the cynical philosopher the whole thing resolves itself into the degree of culpability being in exact proportion to the risk of the thing being found out.

It is a sheer impossibility for anyone to detect the removal of a few mismarked feathers from the ordinary



5. CROAD LANGSHAN COCKEREL.
 Winner (1st, Special), Dairy Show, 1924.
Bred and exhibited by Alfred Giddings, Esq.

6. MAHOGANY ORLOFF HEN.
 A famous winner.
Bred and exhibited by Mrs. Colbeck.

plumage of a fowl, and it is useless to deny that the sophisticated exhibitor extracts such feathers with the smallest hesitation and the minutest qualms of conscience. The pulling of the large feathers of the wings or tail is entirely another thing, and anyone who is daring or foolish enough to try the experiment runs a very big risk of his faking being detected at the very first attempt. Knowing this, the wise exhibitor does not remove any such mismarked feathers. But it is pure hypocrisy for him to wear any airs of virtue on that account. The one is in no sense a more reprehensible action than is the other—the sole difference lies in the risk and consequent fear of detection. In no small number of cases, it is this and nothing else that keeps the exhibitor on the straight and narrow path and not any extravagant ideas of morality. Bleaching, too, is manifestly undetectable, and so the exhibitor who knows the trick indulges in it to his heart's content, and in consequence is vilified and denounced as a monster of immorality by the one who has not discovered the secret.

But dyeing, the removal of important feathers, tampering with combs, lobes and legs, are all spotted with surprising ease and quickness by any competent judge, and for this most excellent reason are all species of faking that, when indulged in, result in punishment both swift and certain.

Summing up the whole thing, there are a few points which stand out in bold relief. Faking is plainly and abundantly existent, as exemplified in the removal of mismarked feathers; the artificial improvement of the plumage of white fowls, whether the means be blueing, bleaching, or anything else; the subduction of minute feathers or down from the shanks and toes

of clean-legged varieties. Barring Jesus Christ himself, it is doubtful if there has ever breathed a mortal man who would in strict privacy, granted knowledge of its necessity, hesitate to remove a few mismarked feathers that marred the plumage of the otherwise well-nigh perfect bird. The truth of this is so evident that it would be far better to state plainly and barefacedly that as these kinds of faking cannot be detected, prevented or punished, they are allowable. As Herbert Spencer remarked with devastating truth, "By association with rules that cannot be obeyed, rules that can be obeyed lose their authority."

Comb-cutting, leg-colouring, dyeing, and sundry other difficult forms of faking are detectable; they cannot be done with impunity, and therefore are comparatively non-existent. But let it not be thought for the fraction of a minute that these detectable forms of fraud are essentially and morally worse than are those forms which are undetectable.

PART II

CHAPTER I

HOUSES AND RUNS

THE provision of suitable sleeping accommodation for fowls is a matter of supreme importance. The old idea that anything is good enough for a few hens is comfortably buried. Indeed, in many cases the pendulum has swung to the other extreme and not infrequently the beginner is led to invest in a needlessly elaborate and expensive house. Extravagance in housing is to be avoided. Ornateness in any shape or form is plainly unnecessary. So long as the house is big enough for the birds it is to accommodate, and provided it is rain and draught-proof, well-lighted and adequately ventilated, one need not bother about details of design or ornamentation.

Poultry-houses vary tremendously in form and structure according to the taste of the builder, the precise purpose for which they are intended, and the climatic conditions of the particular locality where they are to be stationed.

But before proceeding to deal with these several types it will be well to touch upon the general principles of construction.

For the building of poultry-houses no better

materials are available than stone or bricks, but except where a disused barn, shed or other outbuilding can be easily converted to the use of the fowls, buildings of this nature are manifestly inadmissible. Certainly no one but a man of excessive wealth would consider the actual erection of stone or brick houses.

Generally speaking, the material used is timber, and the point the beginner usually has to decide is whether to undertake the actual building himself, to employ a local carpenter, or to procure the house or houses ready-made from one of the numerous appliance firms who specialize in the manufacture of portable buildings of this description.

Now it is not a task of much difficulty, the construction of a fowl-house. There is not the slightest need for anything in the way of elaboration; the work is well within the powers of any reasonably able-bodied man who can tell a saw from a plane, and who has the time to devote to the task. Failing this, it is far better to buy a ready-made structure from an appliance factory than to put the work into the hands of a local carpenter—in the actual workmanship there may not be much difference, but in the matter of cost there will most certainly be a great deal.

Whoever is the builder, however, the house should be constructed throughout of $\frac{3}{4}$ -inch or 1-inch tongued and grooved boards on 2 in. $\times$ 2 in. framework. Nothing thinner than $\frac{3}{4}$ -inch matchboards should ever be used for houses or coops, however small they may be, intended for outdoor use. The cheap affairs built of $\frac{1}{2}$ -inch matchboards are veritable death-traps—they are neither wind nor rain-proof.

Vast care should be taken to ensure the whole building being perfectly draught-proof, and particular

attention should be given to the roof. The only sure way of making this thoroughly rain-proof is to cover it with a good brand of roofing felt, well fastened down with narrow strips of wood. The nails sold for the purpose are in themselves not sufficient to prevent the roof being stripped bare by the first strong wind that blows. The boards of the roof should project well over both front and back so as to throw the water away from the house. Damp houses and rotting timber are often caused through a neglect of this precaution, the water from the roof running down the boards and causing continual dampness.

The floor is to some extent a debatable point and may be influenced by local conditions. Some authorities prefer an earthen floor, others favour concrete, and yet others wood. In fairness to all, I am free to own that I have seen excellent results obtained where each system was religiously observed. Personally I prefer a wooden floor. Earthen floors, despite the most careful cleaning, speedily become foul, and unless very favourably situated on high ground or sandy soil, are constantly more or less damp ; while, in addition, they offer no protection against rats and other vermin. Concrete is sanitary and vermin-proof, but it is much too cold in winter, and, unless the litter is very deep and plentiful, is liable to cause bumble foot.

An adequate supply of fresh air night and day is essential. Of course, local climatic and atmospheric conditions must be taken into account, but generally speaking it is impossible to have too much fresh air provided draughts are rigorously avoided. The old-fashioned type of house rarely provided sufficient ventilation, and a plentiful crop of colds was the

result. Fowls which are confined in a house insufficiently ventilated easily catch cold when released from the hot atmosphere of their sleeping quarters to the cold damp early-morning air. The best and most satisfactory system of ventilation is to have the upper half of the front of the house of small-mesh wire-netting with sliding windows, which can be adjusted as necessary to partially or wholly cover the wire-covered apertures.

Light is only second in importance to fresh air, and the windows should be at both front and back, those at the back of the house being placed near the floor.

Perches are best placed all on a level to prevent the fowls quarrelling and fighting for the highest position. They should be not more than 2 feet above the level of the floor for heavy breeds and not more than 3 feet for light breeds, and in each case the provision of a dropping board is strongly to be recommended. Really a platform or shelf running from one side of the house to the other, under and about 6 inches below the perches, and projecting a matter of 8 inches beyond the outermost perches, its object is to prevent the fowls' excrement dropping on the floor and to facilitate its removal at regular and frequent intervals, preferably daily. It is never advisable to have the perches permanently fixed. They should fit in sockets and be readily removable for cleaning purposes. Where the number of fowls in the house renders more than one perch necessary a space of 18 inches must be left between the two perches and a similar amount of space should be allowed between any perch and the back or side of the house—failure to make this provision results in the birds damaging their tail feathers through constant rubbing against the boards.

Nest-boxes, of which there should be an adequate supply, allowing one nest to two hens, are best fixed to the side of the house and about 2 feet from the floor. The bottom of the nest-boxes should be of small mesh wire-netting and the nests themselves made of straw or hay.

Abundance of litter is one of the essential things in a poultry-house. Exercise and plenty of it is very necessary for the well-being of the birds and as the majority of well-fed fowls will, if allowed, stand about the houses or runs waiting for the next feed, the obvious remedy for this is to make them scratch and search for their food by burying it in the litter. To the depth of 9 in. to 12 in. should this litter be provided. The scratching materials in use are many, but in this direction it is best to be guided by local facilities for obtaining supplies cheaply. Straw is perhaps best of all. Hay gets heavy and soggy in a remarkably short time. Dried leaves or bracken make admirable litter, but supplies are necessarily limited and usually seasonable. Peat moss is very widely used, and is most lasting, but it is quite unsuitable for white fowls and indeed for most exhibition birds; it is also very dusty and liable to get into the food and water. Of course, to the poultry-keeper in a small way the matter is of little consequence—he can usually collect sufficient leaves in the autumn to supply his requirements, but on a large establishment the item of litter may easily be an expensive one. Generally speaking, however, straw can be procured at a reasonable price and provides the most satisfactory and economical material.

The precise and particular spot where a poultry-house is planted depends to a very great extent on local conditions, but wherever possible, it should face

south, or failing this south-east. It is best standing on slightly rising ground with a view to minimizing dampness and should be raised three or four inches from the ground to preserve the floor and sides from rot. Any higher elevation than this is never advisable, and the type of house which provides a day-shelter underneath should be avoided. Fowls have a habit of deciding to spend the night as well as the day under the house, and anyone whose lot it has been to experience the pleasure of creeping underneath in the dirt to catch the birds will join with noise and fluency in my condemnation of this particular brand of house.

The size of the house is, of course, determined by the number of birds that are intended to live in it. For a breeding pen of 10 to 15 birds a convenient size is 7 feet long, 5 feet broad and 7 feet high. It may with advantage be a little larger ; it should in no circumstances be smaller. The type used on my own farm is the one compartment house with the nests raised 2 feet from the floor, thus giving the whole of the floor-space for scratching exercise.

There are those who prefer the two-compartment house with sleeping quarters separate and divided from the scratching shed. In my opinion (I have tried both) this is wasteful and extravagant, as it involves a bigger house with no corresponding advantages. A structure of this type to accommodate the same number of birds as the one-compartment house, would need to be 12 feet long, 5 feet broad and 7 feet high.

The single-compartment house described above is eminently suitable for the requirements of most poultry-keepers, whether amateur or professional. It is a most admirable type for the accommodation

of an exhibition breeding pen of from eight to twelve birds ; it is splendidly adapted to the needs of the ordinary utility poultry breeder who runs his birds in flocks of about fifteen head.

It may be remarked in passing that I consider the height of the house of considerable importance. Apart from the obvious fact that low houses are most irritating to the attendant, presenting difficulties in the matter of cleaning and in many other ways, they are by no manner of means conducive to the health of the birds. It matters little whether the lean-to or span-roof style of house is selected, but in each case 7 feet in height at the apex of the roof is not an inch too much. Economy in this respect is strongly to be deprecated. The 4 feet high houses which are so extensively advertised and so often seen in use are only suitable for growing chickens or ducks which can sleep on the floor.

Apart from cockerel boxes, chicken coops, and the like, no other type of house is necessary or advisable on the average poultry farm. On the commercial egg-farm where large flocks of layers are kept purely and solely for supplying eggs for the market an entirely different system of housing is necessary. Here laying-houses, designed to accommodate from 100 to 500 birds, are almost universally used. In estimating the size of a laying-house an average of 2 sq. feet of floor-space is allowed to each fowl.

Runs.—Turning to the matter of outside accommodation, the ideal system is of course to allow the fowls absolutely free range. Breeds vary considerably in their ability to stand confinement, in their roving propensities ; but there can be no doubt or question that every brand of hen the wide world over gives the

best and most satisfactory results when allowed full liberty. Unfortunately, however, in most instances this is obviously and necessarily impossible.

Plainly the next best thing is to allow the birds the most ample space possible ; which, in other words, means one must regulate the number of fowls kept in accordance with the amount of land available. Let the beginner thoroughly understand that it is of vital and paramount importance that the land should be kept sweet. This, perhaps more than any other single factor, spells success or failure. Land on which poultry is continually running speedily becomes rank and nasty ; and once fouled it is a matter of much difficulty and considerable time to get it healthy and sweet again. For this very good and sufficient reason the greatest care should be taken to preserve the land allotted to the poultry in approximately its pristine freshness, which can only be done by strictly limiting the number of birds that are allowed to live on it. In this respect it is infinitely better to keep too few birds than too many ; it is in every way preferable to give a pen of birds a run that is unnecessarily large than one that is even a shade too small. It is supremely difficult and indeed well-nigh impossible to lay down any hard and fast rule, as soils vary considerably in absorbent and recuperative powers ; while, in addition, the kind of fowls kept affects the matter ; but the novice may judge approximately by the condition of the herbage, and it is safe to say that the moment the grass is showing signs of disappearing from the land it is time to either considerably reduce the number of birds or give it a rest altogether for a time by removing them.

Now in the first place a section of land should be

reserved exclusively for chicken rearing. No adult fowls, apart from the mothers of the chickens, should at any time or on any consideration be allowed on this rearing ground. Only by the rigid adherence to this rule can success in its highest degree be attained. During the part of the year when the ground is not wanted for the chickens it should be allowed to lay idle—by this method alone can one ensure its continuance year after year in all its pristine freshness for the youngsters.

On a breeding establishment, and particularly where more than one variety is kept, a number of runs is essential. These runs will vary in size according to the amount of ground available, and in number according to the extent of the breeding operations; but it is advisable to make them as large, and to have as many, as possible. For a breeding pen of 10 to 12 birds, I allow a run of 25 yards by 12 yards, although a somewhat smaller run would, at a pinch, suffice. The fencing used to enclose the run should be 5 feet high in the case of heavy breeds and 7 feet for light breeds; consisting of wire-netting stretched tightly on stout posts driven securely into the ground. In the case of runs intended for exhibition specimens, the lower part of the fence from the ground to a height of 2 feet should consist of boards or corrugated iron, with wire-netting for the upper part. The object of this boarding is to prevent the male birds fighting as they would most certainly do if nothing but wire-netting intervened—many a valuable bird has had its show career summarily ended through the damage to its comb and wattles resulting from a scrap with a rival rooster occupying an adjoining run.

The life of wire-netting (as every experienced

poultry-keeper knows full well) is remarkably short, and for this most sufficient reason it is advisable when purchasing to stipulate that it must be ready-tarred—the extra initial cost is trifling and the additional length of life given to the wire is very considerable. The tarring can of course be done after the erection of the netting; but as one who has attempted the task I cannot too strongly recommend the premature dip.

Where several breeding pens are to be erected or are in contemplation, their arrangement should be given very careful thought and study. A vast amount of labour can be saved by an intelligent planning of the runs so as to avoid a lot of useless and unnecessary tramping on the daily rounds. In such cases it is best to arrange the houses in parallel rows, backing on each side of a central walk, the doors of both houses and runs opening from this walk. The outside drinking vessels should be so arranged as to be readily get-at-able from this central walk without having to actually enter the runs. In this way considerable time and labour can be saved.

CHAPTER II

FOODS AND FEEDING

THE novice usually errs, and at that to some tune, in one of two ways. He either starts out with the idea, gleaned from the advice which the ignorant are only too ready to bestow, that the feeding of poultry is by way of being the simplest matter conceivable; or he becomes obsessed with the notion that correct feeding is a matter of intricate scientific formulas and carefully calculated weights. Albuminoids, carbohydrates, vitamins, and many terms of the like impressiveness are bestrewed through long articles on feeding written by men who can scarcely tell a Minorca from a Cochin; and the wondering and worshipping beginner swallows the whole with gusto. Now poultry-feeding is largely a matter of common sense. The most successful poultry farmers have a remarkable ignorance of the chemical composition of the foodstuffs they use with such skill. Experience, observation and the interchange of ideas have given to them exact and definite knowledge as to the best foods to use for keeping birds in sound health, for the encouragement of egg-production and the securing of fertile eggs and strong chickens. Beyond this knowledge anything else is plainly superfluous. The weakness of so many dietaries, carefully balanced and correctly proportioned for specific purposes and different seasons in accordance with chemical analysis, is their lack of

palatability. And however meritorious, advantageous and valuable may be a particular food, it is plainly useless if no amount of cajoling will get the birds for which it is intended to partake of it. The purchase of sound grain and freshly ground meals is extremely important. Unscrupulous corn merchants are in the habit of palming off what is little better than rubbish on ignorant and unsuspecting novices. There is, too, a general idea that anything is good enough for hens ; and the sweepings of the corn warehouse, the mouldy remnants of ancient stores of grain, are dumped into the "poultry mixtures," supplied ready-made to local hen-men.

Each brand of food, in addition to being purchased separately, should be carefully examined to ensure that it is bright, clean, free from dust, mildew or blight.

Two meals a day are sufficient, though some poultry-keepers prefer to give a very light feed at mid-day, consisting of a few handfuls of grain scattered in the scratching litter. Where this system is adopted the morning meal should be slightly restricted in the matter of its generosity.

One of the two main meals, and it matters not the smallest jot whether it be the morning or evening meal, should consist wholly of hard grain. Wheat, oats, and maize are commonly used, and while a mixture of wheat and oats in equal proportions, or separately on alternative days, should be the staple summer diet ; maize may be substituted for oats in the cold winter months. The other meal may be either wet or dry mash. The latter is a mixture of meals fed dry in hoppers. First used in America, the system was introduced into this country a matter of ten years

ago, and while opinions are divided as to its superiority over the older method of wet mash, the system has been very widely adopted on large commercial and utility farms. After a prolonged trial I am able to announce that in my opinion the one method gives, in the case of adult stock, just as satisfactory results as does the other. In deciding which to adopt, one should be mainly led by circumstances. The dry mash system undoubtedly obviates much labour, and for this excellent reason is much to be recommended on large commercial and utility plants. Also it has its obvious advantages to the hobbyist poultry-keeper who can only give a modicum of time to his birds before and after working or business hours. Care should be exercised in the selection of a pattern of dry-mash hopper that ensures an adequate supply of meal without waste. These hoppers are best purchased from an appliance firm—the home-made brand is seldom satisfactory.

Wet mash, which when mixed should neither be sloppy nor doughy, but a crumbly appetizing mixture, is best fed in troughs. These can be easily made by nailing together two pieces of wood thirty inches by six inches in the shape of the letter "V," finally affixing two end pieces; or similarly shaped metal troughs are purchaseable at slight cost.

The composition of both wet and dry mashes varies according to the seasons of the year. The formulas for tested and reliable mixtures are given at the end of this chapter. The quantity of food allowed to each hen is of necessity variable. Naturally, a Cochin or an Orpington requires more sustenance than does a Campine or a Leghorn, but a safe rough and ready rule for a beginner is to allow a handful of grain or

wet mash to each fowl. By careful observation it is an easy matter to note whether the birds are getting too much food or insufficient, and to regulate things accordingly. With the dry mash system the matter is, to a big extent, automatically regulated (this is one of the points in its favour) as the mash is there for the birds to eat at any time. The only danger is one of overfeeding, and a watchful eye must be kept on the gluttons—these should be removed to a special pen and kept for a time on short rations.

It is well to examine the birds at frequent intervals for over-fatness or the reverse. This is best done when they have gone to roost. During the breeding season, particular attention in this respect should be given to the male bird. Many roosters allow the hens to gobble up all the food, and, as a consequence, speedily get into poor condition themselves, with woeful results so far as fertility is concerned. It is an excellent plan to catch the male bird and give him his food apart from the hens.

Green food is of the utmost importance. Many poultry-keepers through sheer necessity are compelled to keep their birds on land where so much as a blade of grass is unknown. In all such cases a large square of freshly-cut turf should, wherever possible, be supplied daily. Cabbages should be fed frequently and turnips cut in halves and placed in the runs will be relished by the birds.

Sprouted oats, used so extensively in America, is an admirable form of green food. Its preparation entails a certain amount of trouble, but this is well repaid by the results obtained. So assured am I, from practical experience with this food, of its most excellent properties, that I would strongly recommend



7. WHITE WYANDOTTES.
Winners (1st. Medal), Crystal Palace, 1921.
Bred and exhibited by John Wharton, Esq., J.P.

8. SILVER CAMPINE COCKEREL.
Royal Show winner.
Bred and exhibited by Lt.-Col. W. G. Lucas.

the feeding of it to the breeding and laying stock all through the winter months.

The process of preparation is as follows: Soak a quantity of good, sound, heavy white oats in warm water for a matter of twenty-four hours. In the meantime procure a shallow tray, say six inches in depth, the size is immaterial. It may be of either wood or metal, but the bottom must be perforated with holes of the bore of a fat knitting-needle and at inch-wide intervals. Spread the soaked oats over the bottom of the tray to a depth of an inch and place in a warm and darkened building; a warm cellar is excellent; the darkened corner of a hothouse is even better. And now comes the troublesome part of the thing! The bed of oats must be sprinkled with warm water twice each day for a matter of ten days or so, when the oats will have sprouted to a height of three or four inches, at which period the succulent shoots, roots and all, can be fed to the birds, and will be gobbled up with greedy enjoyment. To ensure a regular supply, a number of trays of oats must be kept in the forcing-house due to ripen on successive days.

Sharp flint grit and oyster shell must be kept, in plentiful supply, always before the birds. And of course the fountain or trough with its constant offering of clear cool water is a *sine qua non*.

The fattening of fowls, whether old or young, is a point of considerable importance. A formula for a fattening meal will be found on another page, but it may be well to give here some details as to general management of birds in process of fattening. It is of course essential that birds to be fattened must be kept in strict confinement, the great points being to get them to eat as much food as possible with the

minimum amount of exercise. Fowls that are being fattened will not stand this combination of forced diet and strict confinement for any considerable stretch of time and ten to fourteen days is the most that one can count upon. The fattening coop should have a latted front, and a wire-netted or latted floor, either of which has the two-fold purpose of discouraging walking exercise and allowing the excrement to fall through to the ground—it is vital that the coop should be kept scrupulously clean and free from the presence of any species of insect life.

Special Foods for Certain Breeds and Purposes.—

The foregoing remarks on feeding apply to most breeds and varieties, being essentially general in application. There are, however, many special circumstances which affect this matter of feeding, as for instance the effect of different foods on colour. To the utility breeder, of course, this is a point of no particular importance; but in the case of birds intended for exhibition, the continual use of food which adversely effects the colour and texture of the plumage may well be attended with disastrous results.

The purity of the plumage of all white fowls can only be retained by the most careful feeding. Yellow maize must not be given either to youngsters or adults, and the use of iron tonics in either food or drinking-water will similarly give a yellow tinge to the plumage. On the other hand, red or buff varieties benefit greatly through the free use of maize, iron tonics and beetroot, as do similarly all yellow-legged varieties that have no admixture of white in their plumage.

The richness and density of black plumage is intensified by the addition of iron and sulphur to the food. The most convenient form is carbonate of iron, of

which one teaspoonful should be allowed for each twelve birds three times a week, alternated with an allowance of a tablespoonful of flowers of sulphur to the same number of fowls. This special feeding is not intended as anything in the nature of a regular thing, but for use in the case of adults during the period of moulting and at the time when the youngsters are donning their final plumage. Lustre of plumage is heightened (and this applies to all varieties) by the generous use of oily foods, such as linseed, hemp and sunflower seeds.

DRY MASH FOR BREEDING STOCK.

Bran ..	..	..	..	..	2 parts.
Middlings	..	..	..	..	2 "
Maize meal	..	..	..	..	1 "
Sussex ground oats	..	..	..	..	2 "
Pea meal	..	..	..	..	1 "
Fish meal	..	..	..	..	$\frac{1}{2}$ "

DRY MASH FOR LAYING HENS. (WINTER.)

Bran ..	..	..	..	..	2 parts.
Middlings	..	..	..	..	2 "
Maize meal	..	..	..	..	2 "
Pea meal	..	..	..	..	1 "
Sussex ground oats	..	..	..	..	1 "
Meat meal	..	..	..	..	1 "
Clover meal	..	..	..	..	1 "

DRY MASH FOR LAYING HENS. (SUMMER.)

Bran ..	..	..	..	..	2 parts.
Middlings	..	..	..	..	2 "
Sussex ground oats	..	..	..	..	2 "
Pea meal	..	..	..	..	1 "
Fish meal	..	..	..	..	$\frac{1}{2}$ "

***WET MASH FOR BREEDING STOCK.**

Bran	3 parts.
Maize meal	1 "
Pea meal	1 "
Fish meal	1 "
Middlings	2 "
Sussex ground oats	3 "

***WET MASH FOR LAYING HENS. (WINTER.)**

Bran	3 parts.
Middlings	2 "
Sussex ground oats	3 "
Pea meal	1 "
Maize meal	1 "
Meat meal	1 "

***WET MASH FOR LAYING HENS. (SUMMER.)**

Bran	3 parts.
Middlings	2 "
Sussex ground oats	3 "
Pea meal	1 "
Fish meal	1 "

FATTENING MEAL. (WET.)

Maize meal	3 parts.
Sussex ground oats	1 "
Barley meal	1 "
Meat meal	$\frac{1}{2}$ "

Mix with skimmed milk or buttermilk (one or the other, but not both) and give as much as the birds will eat three times a day. Water and flint grit should be constantly before the birds. In the event of any fowl refusing to eat or appearing sick it should be immediately removed from the fattening coop.

* In each case the bran should be scalded by pouring over it boiling water.

CHAPTER III

HATCHING AND REARING

It will be sufficiently obvious even to the most uninitiated how enormously important is the hatching of the chickens and their subsequent management during the period that must elapse before they reach maturity. For the sake of simplicity and convenience it will be advisable to deal with a rather complicated subject in its various stages.

Effect of Stock-birds on Fertility of Eggs and Vigour of Chickens.—Each year the cry arises from numerous breeders—and in its intensity and “widespreadness” it is by no means confined to the ranks of novices—of the large percentage of unfertile eggs, of weak and unhatchable germs, of the heavy rate of mortality amongst the chickens. True it is that local climatic conditions and prevailing bad weather are sometimes the responsible factors ; but in the majority of instances one is compelled to look further, and usually the whole fault lies at the door of the breeding stock. Where immature birds are mated—and in their efforts to approach the ideal, exhibition breeders are apt to breed from their best specimens irrespective of age—poor fertility and weak germs naturally and inevitably are the results. Promiscuous and prolonged in-breeding brings about precisely the same results ; and the few chickens hatched are reared with much difficulty. It is noteworthy, however, that in-breeding does not always

adversely affect fertility ; but on occasion stimulates it, the weakness being unobservable until after the birth of the young.* It behoves the breeder to exercise the greatest care in the choice of mature and vigorous breeding stock, but this matter of selection is dealt with fully in a later chapter.

Selection of Eggs for Hatching.—Undersized as well as oversized eggs are not to be recommended for incubation. Badly-shaped, rough-shelled and thin-shelled eggs should similarly be eschewed. The length of time an egg can be stored before incubation, depends partly on the time of the year, but mainly on whether it is destined for natural or artificial incubation. During the early months of the year evaporation is not so rapid as in summer and an egg can be kept longer without any serious loss of its life-forming constituents. Fourteen days is about as long as it is advisable to keep eggs intended for hatching under hens, though they can be and have been hatched even when a month old. With incubators, the fresher the eggs the better, and no machine will turn out a satisfactory hatch if the age of the eggs at the moment of starting incubation exceeds seven days. Eggs are best stored on their sides in a bed of bran. When sending away sittings the wooden or stout-cardboard divisional boxes made specially for the purpose should be used. Chaff or bran are the best materials for packing.

Natural v. Artificial Incubation.—As a hatcher of the strongest possible chickens from the biggest percentage

* Some years ago the author had a striking instance of this. A collection of birds came into his possession which had been consistently and very closely in-bred for five generations. Practically every egg hatched, but the number of youngsters that reached maturity was only five per cent. of the quantity actually hatched.

of fertile eggs, the incubator is not in the same street as a sitting hen. By nature's method one can hatch chickens from eggs that would never so much as get beyond three days' growth in the best artificial hatching machine ever constructed. Of the truth of this there is no doubt or question. It is for this very good reason that on the exhibition poultry plant the incubator will never entirely supersede the hen ; it is because of a profound conviction as to the unapproached perfection and manifest superiority of the latter that many exhibition breeders take the trouble to keep a flock of Silkie hens for the sole and express purpose of hatching eggs laid by hens that are either of a non-sitting brand or are too valuable to be allowed to waste their time on such an every-day job as sitting on eggs. In the case of some varieties, and more especially certain strains, through many years in-breeding, it is impossible to secure any chickens at all by means of an incubator. For these reasons during the months of December, January and February broody hens of any brand are in frantic and extravagant demand. On utility and commercial farms the whole thing can be viewed from an entirely different standpoint, for here, owing to the huge number of fowls kept and the extensiveness of the hatching operations, it would be plainly impossible to meet the needs of the situation with hens. Incubators must of necessity be used, and as there is none of that close in-breeding which is so marked a feature of the exhibition side of poultry culture, hatches in the main reach a satisfactory average. Then, too, on most utility farms the day-old chick trade is a special and prominent part of the business, and to carry on this in any way satisfactorily and profitably chickens must be turned out regularly

and in considerable numbers. It may be well to mention here that this is one of the most remunerative sections of utility-poultry farming, there being a steady demand at paying prices for pure-bred day-old chickens of the more popular varieties. Suitable boxes for their conveyance by rail can be purchased cheaply, and packed in batches of not less than twelve, and at an age of from twenty-four to thirty-six hours the chicks will travel comfortably and safely from one end of the country to the other. Before despatch it is well to work out the best and quickest route, thus obviating any unnecessary delay on the journey.

Setting the Hen.—After satisfying oneself beyond any reasonable doubt that the hen is really broody, she can be moved to an empty poultry-house, out-building or shed reserved for the accommodation of sitting hens. This removal is best accomplished at night, a nest having been previously prepared for her reception. This nest should be roomy, a box or the compartment of a box measuring some eighteen inches square being a good average size. The bottom of the nest-box is best made of fine mesh wire-netting, and preferably should be placed on an earthen floor. Failing this a square of turf approximating to the area of the nest should be placed in the bottom, grass side downwards. On this comes the straw or hay, shaped into a basin-like hollow, especial care being taken that the corners of the box are well filled as a means of preventing the eggs getting pushed there by the hen in her shufflings. A hinged front to the box is advisable, but in any case the hen must be prevented from leaving the nest at every prompting of her own sweet will. Quiet and comparative darkness are both strongly to be advised. Before trusting valuable eggs

to the apparently keenest of broodies, it is well to let her sit for a day or so on pot eggs. On being satisfied as to her sitting propensity the eggs should be carefully placed under her. A good-sized hen will take twelve to fifteen eggs, but it is never advisable to give her too many, better by far err the other way. In cold weather ten to twelve will be quite sufficient. In removing the hen each day for feeding and exercise, the greatest care must be taken not to drag out any eggs with her. If she will walk off on her own initiative by all means let her do so ; if she shows no inclination to do this, pass the hands under the wings, and after making sure that no eggs are entangled in her feathers, lift her carefully from the nest. Sitting hens are best fed on maize on account of its heat-producing qualities. Water, grit and a box containing coal ashes with which a little flowers of sulphur has been mixed should be provided. The length of time the eggs may safely be deserted depends on the atmospheric temperature at the time. In cold weather ten minutes is quite long enough, while during the latter part of the hatching season, double that time will not harm the eggs. If there are several hens sitting at the same time, and in the same building, only those which will agree should be let off together, and even then a watchful eye must be kept on them in case of quarrelling. The whole matter of setting a hen seems simple enough, and so indeed it is, but, when half through the three weeks of incubation, the hen takes it into her head that she has had enough of the job, it is a remarkably sweet-tempered man or woman who can refrain from using tabooed words with noise and pungency. Or when, as happens often enough, the hen manages to break an egg with a resultant sticky, messy nest there is

work for a sponge and warm water—not infrequently this happens two or three times in the course of a hatch. In this connection it may be mentioned that the presence of vermin on the sitting hen is a very frequent cause of broken eggs. Tormented to distraction by the bites of fleas and blood-sucking lice, which if left alone breed with prodigious prolificness in the warm, comfortable atmosphere of the nest, the hen in frantic and unavailing efforts to rid herself of the pests shuffles about, and in so doing inadvertently treads on or otherwise crushes an egg. Every broody hen should be thoroughly dusted with insect-destroying powder (an excellent formula is given in a later paragraph of this chapter) before any eggs are placed under her and twice afterwards before the coming of the chickens.

Artificial Incubation.—I have no intention of attempting in this book to give any detailed rules for the working of an incubator. There are on the market not a few excellent machines, and with each of them is given full and complete instructions for its successful management. The beginner is advised to follow religiously the instructions issued with the particular brand of incubator he purchases, for if there is one man living who is likely to understand the machine better than anyone else it is most assuredly the one who is responsible for its production.

Unless one's stock of birds is a considerable one it is preferable in every way to purchase a small machine, one with a capacity of sixty or seventy eggs being a convenient size ; and two small machines are decidedly better than one of large capacity.

Of the two types of incubator in general use, hot-water and hot-air, it is a matter of small importance which is selected, so long as it is a machine of reliable

make. I have operated a hot-water and a hot-air incubator side by side, and in the matter of percentage of chicks hatched there was not so much as a particle of difference. But the place where the incubator is run is most emphatically a matter of considerable importance. The coal shed is not a suitable place, nor is the front bedroom, nor the kitchen, nor an empty fowl-house. Certainly the average poultry-keeper is in no position to build an incubator-house, but if he cannot find a corner for the machine in a quiet, cool, well-ventilated room or building he had much better be without it. A cellar, or a disused stable, or other out-building, provided it has adequate ventilation and maintains an equable temperature, is excellent for the purpose. On large utility and commercial farms, and where a special business is made of the hatching and sale of day-old chicks, large machines of three hundred to five hundred egg capacity are used, and during recent years the mammoth incubator, an American labour-saving and space-economizing innovation, has been installed in not a few cases. This is in reality one long machine divided into convenient sections, any one of which can be operated separately from the rest, the whole being heated by radiation from one common source.

The artificial hatching of ducks' eggs calls for special treatment, and as this is not a matter of general information, the instructions for operating being ordinarily in sole reference to the hatching of chickens, the points wherein different management is advisable may prove useful. The difference is largely a matter of moisture. The amount required by hens' eggs is altogether insufficient. Instead of filling the water trays or troughs after the first week of incubation,

as is usual, they must be filled when the eggs are placed in the machine and care must be taken that they never so much as approach a condition of dryness. In addition, sprinkle the eggs generously with warm water on the twenty-fifth and twenty-sixth days, after which keep the drawer or door closed. Ventilation should be curtailed from the start by blocking up a third of the side-ventilating holes in the tank machines and the use of felts in the hot-air type of incubator. The temperature throughout the hatch should be one degree lower than for hens' eggs in similar conditions.

Testing the Eggs.—Whatever be the method of incubation adopted, it is well to test the eggs on the eighth day, and remove any which are clear. An expert at the job can successfully test for fertility on the fourth day, but it is not advisable for the beginner to make ambitious attempts of this nature, and run the undoubted risk of destroying not a few embryo chickens. This test for fertility is easily made by holding up the egg endways in front of a strong light in a dark room. The appearance of a fertile, or chicken-containing egg after development has started is more or less opaque, with the exception of the air-cell at the large end of the spheroid. The density of this opaqueness increases as the embryo develops, until, as the period of incubation comes to an end the whole egg (except for the air-space) appears virtually black; an unfertile egg on the other hand presents in its transparency precisely the appearance of a fresh egg.

Arrival of the Chickens.—When the chickens commence hatching, which will be on the twentieth or twenty-first day, the hen must not be disturbed until all the chickens are out. In the case of an incubator,

after the final turning on the nineteenth day, the drawer or door should not be again opened until the completion of the hatch. Certainly it requires a good deal of firmness, especially where no window is provided, to refrain from having a peep into the incubator, but to ensure a good hatch any such inclination must be rigorously suppressed.

Chicken coops can be purchased ready-made, or can be easily constructed at home. A coop measuring $2\frac{1}{2}$ feet by $2\frac{1}{2}$ feet, 2 feet high in front and sloping to $1\frac{1}{2}$ feet at the back, gives adequate accommodation for a mother hen and anything up to fifteen chicks, this number of youngsters being about what the average hen can conveniently manage.

The front of the coop should consist of laths of wood, with spaces of about two inches between each, so that the chicks can pass easily in and out while the hen is confined to the coop. In this way the youngsters are not disposed to stray far away from the coop, whereas if the mother had her liberty she would, on exploration bent, tirelessly carry her brood all over the adjacent country and probably lose one or two in the process. Where cats or other enemies of chicken-life constitute a danger further protection is necessary. A run should be constructed of inch-mesh wire-netting fastened over a wooden framework—the larger the run the better, so long as it fits closely to the front of the coop. The coop and run should be moved to fresh grass daily. Chaff makes an excellent litter for the floor of the coop; so, too, does granulated peat-moss—not the lumpy fibrous material nor the dust. Where the youngsters are to be reared artificially the brooder must be ready for their reception and running steadily at the requisite temperature before the chicks are placed therein.

The number of brooders on the market is well-nigh uncountable, and no attempt at recommendation will be given here, beyond referring to the different systems.

The type most widely used by the average poultry-keeper is the out-door brooder, comprising a heated sleeping-chamber, a nursery and an outdoor run. Brooders of this stamp are designed to hold any number up to one hundred chicks, but it is rarely advisable to put in more than half that number. The indoor rearer, which is simply a hover or a heated metal chamber, is designed for use in a shed or a poultry-house; and where a suitable building is available the system proves eminently satisfactory. Here again no more than fifty chicks should be run in one flock.

Both these types of rearer are usually heated with an oil-burning lamp, or where gas is available, by a bunsen burner. On larger establishments a different system is usually adopted. Many farms have a large brooder-house, which is virtually a long structure divided in numerous sections, each of which comprises a hover and exercising room, these various hovers being all connected with one heat-supplying pipe running through the entire building, the heat being generated by a stove at one end. During recent years, however, this system has been to a large extent displaced by the coal-burning brooder stove, as it is termed. This is neither more nor less than a closed coal-burning stove surrounded by a large metal hover designed to throw down the heat upon the chickens. These brooders are fixed in the centre of a house and are intended to mother anything from one hundred to one thousand chicks each. On large establishments there can be no question as to the huge saving of labour. The only drawback is the liability of the chickens

reared in such large batches to crowd on each other in the corners or against the stove itself, particularly if through any one of a variety of possible causes there is a considerable drop in the temperature. For this reason it is most desirable to never run more than two hundred chickens in one flock.

The main essential in the successful rearing of chickens by artificial methods is the prevention of suffering from either over-heating or under-heating—the one is very essentially as much an evil as the other. A good deal depends, of course, on the stamina of the chickens themselves. There are those which can stand considerable changes of temperature with comparative impunity, but by no means does this apply to exhibition-bred birds. Indeed it would be foolish to a degree to so much as attempt the rearing of chickens from exhibition stock in large numbers—so precious are the inconsiderable number one can expect to hatch from the few Palace winners one may be fortunate enough to possess, that the wise breeder will trust them only to the most careful of mother hens.

The First Weeks.—It is a matter of sheer impossibility to devote too much care and attention to the youngsters during the first two or three weeks of their existence. Get them over this trying period and the rest is comparatively plain sailing. Generally speaking it is best to give nothing but dry chick feed for the first month. There are on the market several excellent mixtures and any one of them will prove an admirable feed. Care must be taken, however, to ensure the grain being fresh, sound and sweet—mouldy food will cause diarrhoea and a plentiful crop of deaths. For the convenience of those who prefer to mix their own food, a well-tried and most excellent formula is given here :

Kibbled wheat	..	..	15 parts.
Kibbled maize	..	..	10 „
Kibbled groats	..	..	10 „
Canary seed ..	..	..	10 „
Millet ..	..	..	5 „

But in most cases it is preferable to buy one of the well-known ready-mixed brands—the kibbling of the grain and its proper mixing are not matters easily or successfully carried out by those who have not the requisite machinery for the purpose. Grit, charcoal and water should be given regularly and constantly.

There are, however, exceptions to this general rule. Some chickens bred from closely-related exhibition stock are remarkably delicate, and it is entirely useless and even foolish to close one's eyes to the fact. The method of rearing which gives excellent results in the case of normal, strong, healthy youngsters will fail entirely with these more delicate products. In all such cases the staple food for the first week should consist of hard-boiled eggs chopped up finely and mixed with stale bread crumbs or pinhead oatmeal. Expensive food in all truth, and most assuredly for this very reason not for the thousands of youngsters on the utility farm, but in the case of many of the more delicate exhibition varieties, plainly and abundantly necessary.

After the first month many utility breeders continue with grain feeding, using a larger and cheaper mixture, and also supplying dry mash in hoppers. The following is an excellent mash :

Sussex ground oats	..	..	2 parts.
Bran ..	..	..	2 „
Middlings	..	..	1 „



9. SPANGLED YOKOHAMA COCKEREL.
 Winner (2nd), Dairy Show, 1913.
The property of Mrs. L. C. Pridaux.



10. SPANGLED YOKOHAMA HEN.
 Winner (1st), Utrecht, Paris, and Birmingham,
 1913.

Maize wheat	..	..	1 part.
Meat meal	..	..	$\frac{1}{2}$ „
Charcoal	..	..	5 per cent.
Fine flint grit	..	..	5 „

This mixture, carefully protected from rain or damp, should be kept before the youngsters all the time. It eliminates the unending bother of mixing soft food, and where the number of chickens reared is a large one the saving in the matter of labour is an item worth consideration and pretty big consideration at that.

But while these methods are all very well and good in the case of birds destined purely for utility purposes, they are of small use to the exhibition breeder, who is desirous of growing birds of a size and of a quality of feather altogether unknown to the average poultry-keeper. To attain this required size—and in some breeds this is a matter of vital and paramount importance—soft food must be given, and the youngsters must be enticed to eat freely by every means known to the feeder. In addition, in the case of chickens reared during the first three months of the year—and it is during these very months that the breeder of birds for show makes the most strenuous efforts to hatch the majority of his chickens—it is very advisable that an additional feed or feeds should be given by artificial light. The period of darkness represents too extended an interval without food for the youngsters. If an ordinary hurricane lamp is placed on the floor of the coop and the food sprinkled within the arc of its light, the chickens will come from under the hen and eat greedily and with evident relish.

After the age of four weeks the dry feeds must be

alternated with wet mash. No better basis for this can be found than biscuit meal and bran mixed in equal proportions, scalded, and dried off with Sussex ground oats and pea meal.

Now growing youngsters, like every other mortal thing on this globe of ours, get tired of the same brand of food day after day and week after week. Every experienced rearer has had instances of birds for no apparent reason suddenly going off their food ; turning it over and playing with it. Largely preventable is this by changing the diet. Boiled rice mixed with oatmeal is an excellent occasional food, and few indeed are the youngsters that can resist it. Boiled wheat is also splendid and is hugely relished. Oats, boiled and mixed with middlings, can be given occasionally. Despite every tempting food that can be devised, however, it sometimes happens that chickens appear to have stopped growing. This in itself is enough to give their owner perturbing thoughts, for growth once lost can never be regained. In such a case the only thing to do is to move the whole flock to fresh land—this change of ground will work the trick when every other method has failed most dismally.

Chickens, after the first two or three weeks, invariably grow quicker where they can enjoy unlimited space. If an orchard is available no better spot for the rearing of youngsters is imaginable. Apart from the essentiality of protection from the burning sun in the case of exhibition birds, growing stock of any description thrive much better where shade of some description is provided.

Green food in abundance is essential. Cabbages, turnips, kale, rape, lettuce, are all excellent. Onions, finely chopped, and mixed with the soft food, once or

twice a week, have very good tonic properties, and are useful for keeping the chickens free from colds and roup.

Overcrowding and its Dangers.—As the young birds grow, it becomes necessary to move them from the coops, brooders, etc., to more commodious quarters. Many beginners, and, it may be mentioned, others who should most certainly know better, keep them too long in the coops or rather leave too many chickens for the capacity of the coop. So long as the youngsters can squeeze in, it is thought they are all right. Now growing birds require not only adequate ventilation, but plenty of air space; in point of fact, except in remarkably cold weather, they cannot very well have too much of either. Overcrowding in the suffocating atmosphere of a small, badly-ventilated, low-roofed coop is pretty well certain to give the youngsters roup. It is safe to assume that ninety per cent. of the cases of roup amongst growing stock can be traced to this one cause.

Chicken Enemies.—The number of animals, rodents and even birds, that cast envious eyes on chickens as tasteful bits is, on occasion, sufficient to cause the poultry breeder to throw up the sponge in sheer despair. If one brand of enemy is avoided, often enough another springs up to take its place. In a populous neighbourhood there are cats, which necessitate the keeping of every solitary youngster under a protecting screen of wire; in the country there are foxes or weasels; in a wooded district, hawks, rooks and magpies take their toll; everywhere is there the danger of rats to drive one to veritable distraction. And although cats can be trapped, foxes and flesh-eating birds shot, and rats poisoned, the respective tasks are not one of

them easy of accomplishment, and the toll on the crop of chickens during the war of extermination is as often as not by no means a small one. To prevent or minimize this, all chicken coops and houses should be carefully and effectively closed at night, and where rats are in evidence the floors of the coops and houses should be covered with small mesh wire-netting. In fox-hunting districts all fowls, young and old, should be securely fastened up at night.

Insect Pests.—I have little hesitation in affirming that there are more losses amongst chickens due to lice and ticks than from all the diseases put together. These vermin suck the blood and destroy the vitality of the youngsters by day and by night. Their victims stand about the runs the picture of misery. Now lice and ticks breed with incredible rapidity, and unless constant repressive measures are taken it is a safe and certain assumption that the chickens will be infested. The coop should be well sprayed with paraffin every week and the mother hen dusted thoroughly with insect powder.

The following mixture has been in constant use on my establishment for many years: equal parts of pyrethrum powder, flowers of sulphur and powdered naphthalene, well mixed. These ingredients should be perfectly fresh and the mixture must be kept in a tin provided with a perforated lid for dusting purposes. It is never advisable to actually dust young chicks with powder, but once a week, the mother should receive a good dusting, particularly under the wings and round the abdomen.

At frequent intervals the young chicks should be carefully and searchingly examined for head ticks. These are by no means easy to see, as they embed

themselves in the chicken's skin. If any ticks are discovered they must be at once destroyed. Insect powder is of the smallest use against these ticks; grease is the only remedy. The head should be anointed with a drop of camphorated oil.

The Art of Culling.—Skill in the detection, at a comparatively early age, of youngsters which will fail to develop into profitable and satisfactory adults is of the highest value to the exhibition breeder. Whether a back-yarder or the proprietor of an extensive breeding establishment, it is of the utmost importance that young birds which are likely to prove useless should be disposed of for table purposes at the earliest possible moment. Youngsters with wry-tails, crooked backs, hopelessly malformed combs, or other deformities, as well as palpably mismarked specimens, can of course be weeded out with certainty at an early age; but anything further than this calls for expert knowledge of the relative appearance of breeds at the various stages of development.

Breeds vary tremendously in this respect and the requisite knowledge can only be gained by long and careful study of the particular breed or breeds kept.

The Rearing of Bantams.—While the aim of the breeder of large fowls is to get the maximum amount of bone and size in his youngsters, leading to the making of frantic efforts and the sparing of no expense or trouble in securing foods designed to grow the birds quickly and well, the aim of the bantam breeder is the exact converse. His efforts are every whit as earnest, as laboured, as strenuous, but in a precisely opposite direction. And just as the natural tendency of ordinary fowls is to decrease in size, so is the natural tendency of bantams to approach their larger prototypes.

It is mainly for this reason that the majority of bantams are hatched late in the season. But while this naturally enough has a certain tendency to keep down size, it is by no manner of means sufficient in itself. In-breeding from the smallest specimens is heavily indulged in, but here again there are decided limits to the extent of the practice.

It is by skilful feeding that, in the main, size is kept within the standard limits. The amount of bone-forming material is kept at the lowest possible ebb. The grain diet for the young chicks is a finely kibbled mixture of wheat, canary, millet and rice, and where the robustness of the stock renders the method possible, no soft food of any description should be given. But unfortunately the majority of Bantam chickens cannot thrive on rough and ready methods, and for the first week, at any rate, an egg and bread-crumbs diet is often enough imperative if there are to be any youngsters reared at all. But the moment experience leads one to infer the egg diet can be dispensed with, bread and milk, alternated with boiled rice should take its place; and except for the final feed at night, the bantam chickens should be fed sparingly.

CHAPTER IV

SELECTION OF STOCK AND THE ART OF MATING

MAN in his efforts to beautify and idealize is engaged in a constant and continual struggle with nature. He reaches out a grabbing hand and secures specimens of this species of animal or that species of bird and forthwith proceeds by the creation of new breeds to alter it, in many cases, well-nigh out of recognition. In the cosmic process known as the state of nature the tendency, and it applies to every solitary brand of animal, bird, reptile or plant, is towards infinite variation. Without this tendency, constant in its manifestations, there could be no such thing as evolution.

While man becomes, with advancing civilization, more and more protectively inclined, tempering in all truth (which, by the way, God never did) "the wind to the shorn lamb," nature is ruthless. Indeed, had it not been for this ruthlessness, this old globe would have been filled to the position of "standing room only" a matter of thousands of years ago.

It is only necessary to picture what would happen to a beautiful garden if the controlling and protective hand of man were to be withdrawn for a single year. It is easy enough to imagine what would happen to a flock of exhibition poultry if allowed to breed with nothing in the way of guidance for a matter of three years. The selection of breeding stock by man will

do more in a decade, as applied to poultry and the smaller animals, than natural or sexual selection can accomplish in a thousand years. The truth of this cannot fail to be evident when one considers the enormous number of breeds and varieties that have been produced since the days when poultry-breeding was first given serious attention.

The importance of the closest study being given to the selection of birds for breeding purposes cannot be over-estimated. Without a thorough knowledge of the principles underlying this matter of selection in its general application to the art of poultry-breeding, all other knowledge goes for nothing. The houses and runs may be the finest money can procure, the method of feeding and the system of management may be alike excellent, but the results in the supreme matter of quality of birds produced will be dismal to a degree if the stock birds have not been properly selected, and, in addition, rightly mated. The purpose of this chapter is to deal as clearly, comprehensively and yet succinctly as possible with the points in question.

General Principles of Selection.—It matters not the worth of a bent pin whether the stock is intended for utility or exhibition breeding, the primary requirement is perfect health and abounding virility. With equal force does this universal law apply to male and female stock. Health and strength, however, do not necessarily imply excessive size, which in the majority of cases is to be avoided. But in this connection birds for breeding purposes should conform with reasonable accuracy to the size stipulated in the standard of the particular breed in question. Every bird must be carefully examined for any physical defect or deformity and anything in the nature of an abnormality must be

avoided. Wry-tails, roach backs, crooked toes, slipped wings, defective combs, are all strongly hereditary. I have known a foot deformity carried by a male exhibited in more or less aggravated form by ninety per cent. of his progeny. Slipped wings will come out in generation after generation; feathers on legs are just as persistent; a wobbly comb will be perpetuated in a strain with almost mathematical precision.

The Selection of Utility Breeding Stock.—Not so very long ago it was the invariable custom of those breeders who cared not the smallest jot for anything but eggs, to purchase each year, with clock-like regularity, fresh males and cross them with their existing stock. So long as these males were apparently strong and healthy and flourished something reasonably approaching the characteristics of the breed they represented, details were of little moment.

Nor was there, in those days, any examination of the brand that is in such vogue to-day. It was to be left to a later generation to produce those with the nerve to aver that the ability of a cock bird in the direction of producing laying pullets could be foretold by the texture of his comb, by the size and prominence of his eyes, and by the degree of ossification and the position of the pelvic bones. But largely charlatanic though the pretensions of Hoganism and of its varied interpretations, modifications and extensions indubitably are, the average utility poultry-keeper of to-day religiously believes in the selection by feel and measurement theory much in the way that the average farmer believes in the virtues of the horse-shoe hanging behind the stable door. Indeed, in thinking of the poor boobs who sit in mouth-gaping and eye-goggling wonder, listening to the paralogical imbecilities of empiristic

lecturers and watching demonstrations of finger-exploration in the abdominal regions of a gasping hen, my thoughts shift to an analogous picture of crazy-minded sciolists mentally sweltering in the darkness during a spiritualistic séance.

Turning from the regions of pseudo-scientific theories to practical facts, beyond the outward indications of virility, health, activity and alertness; the trap-nest records of the hens themselves, their dams and the dams of the male birds, are the only points worth taking into account. These records will repay careful study, and while in the purchase of stock birds of either sex there is the smallest need for soaring prices to be expended in efforts to secure record-breakers, the birds should have behind them tolerably high egg averages.

Selection of Stock for Exhibition Breeding.—However important may be this matter of selection as applied to utility birds it becomes a hundred times more so when we get into the complicated waters of the exhibition world. For here it is not a matter of a few eggs more or less; it is a question of the success or failure of the year's work. Equally important indeed in the breeding of birds for show are the two inter-allied and yet separate matters of selection and mating—without the right brand of breeding stock a master-mater can do precious little towards the attainment of perfection; without an expert knowledge of the art of mating, the breeder, given the best stock in the world to select from, can do no more than play a game of blind man's buff.

Now before anyone can so much as attempt to select initial breeding stock, either in the matter of purchasing from another breeder's yards or from the season's crop

to be found on his own farm, he must be thoroughly acquainted with the characteristics of the particular breed with which he is immediately concerned. No sketchy ideas of shape and colour, such as suffice for utility selection, are of the slightest use; a thorough mastering of the hundred and one details outlined in the standard of perfection for exhibition specimens is imperatively needed.

In the purchase of stock the importance of strain must be kept bigly in mind. It is plainly impossible to be over-careful. The acquisition for the sake of cheapness of obscurely-ancestored birds which may be nothing but abnormal throw-offs from mediocre specimens is mere foolishness. Similarly the claiming of prize-decorated selling-class birds at shows is not to be generally recommended. As often as not, these specimens, if of such apparent first-rate excellence as to seem phenomenally cheap, have faults of which no one but their owner can possess the slightest knowledge.

The course to be most highly and generally recommended, applying in its truth specifically to the beginner, is the purchase of stock birds, whether in the nature of an initial breeding pen or a solitary male bird, from a breeder of repute and integrity, who has at his back at least a few years' experience.

An exhibitor is not necessarily a breeder. The point to the buyer of stock, is one of transcendental importance. For it is not by any means an impossible assumption that a highly-successful exhibitor may so far as the knowledge of breeding goes, be monumentally ignorant. A cheque-book lavishly used can, and on occasion does, take the place of the more perspiring efforts and thought-racking activities of the master breeder.

It is for this sufficient reason that the search for breeding stock involves the niceness, the discrimination and the suspiciously tentative treading of a collector of antiques. The extravagantly advertised wares of the bird-buying exhibitor must be avoided no less than the drum-banged, shop-windowed birds of the dealer ; or the produce of the badly-mated stock flourished by the moneyed beginner.

But rightly carried out, this search, difficult though it unquestionably is, can most assuredly be brought to a successful conclusion. Breeders who produce winning specimens year after year, with the regularity of the earth's circumgyration of the sun, do exist, and in numbers, too. One of these, possessed of a reputation such as it is inadvisable to have smudged or damaged, is the stamp of breeder to approach, and with his guarantee as to strain and ancestry the required stock can be safely selected.

Principles of Mating.—Although the wide-spread idea that like produces like is in its fundamentals superficially correct, the exceptions are so numerous and its observances so fluctuating that no law of this nature can be propounded. It is indeed more applicable in the general and sketchy conception of breeding common to members of the general public, than in its higher and more detailed application as understood by the skilled and scientific breeder.

Physical weaknesses and positive deformities reproduce themselves with remarkable insistence and regularity and to a very big extent this has been responsible for the promulgation, amongst those whose knowledge is of an empirical brand, of the idea that like produces like. In such a case, however, the outward manifestation of any particular deformity is

proof of the possibly unsuspected existence of that precise weakness for many generations until it has attained a form of dominance.

But as regards the majority of points flourished by a particular bird this is often enough by no means the case. The tendency of nature, as I have already pointed out, so far from being in favour of the propagation of one exact form or type is towards infinite variation. By careful selection and a kind of continual checking or rounding-up, man is able, in the case of domesticated creation, to keep nature within a reasonably fixed course, but he can never entirely overcome this strong and dominating inclination to wander.

It will therefore be evident that any one or more features present in an individual bird (applying with equal force to points wanted or unwanted) may conceivably be dominant, partially fixed, or mere chance variations ; and the nature of their pre-potency depends entirely upon this.

It is impossible within the scope of this work to even attempt to do any more than deal with the general principles of mating. The elaboration and application of these principles to individual breeds and varieties are matters that must be left to the intelligence and experience of the individual breeder.

Improvement is essentially slow. There is no means whereby any point may be developed or strengthened quickly. For instance, if it is desirable to bring about an increase in the average size of a strain, useless is the attempt, by the mating of a giant of the breed with professed undersized specimens, to reach the aimed-at point by one big jump. In this way are weaknesses and abnormalities developed. The increase must be gradual. Similarly in the matter of

colour, the mating of an intensely dark red cockerel with hens of a pale shade produces mottled or unevenly coloured progeny, instead of having a darkening effect.

Granted equality in the degree of hereditary significance, the male has the major influence on size. Where it is desired to influence the size of the strain, either in the way of increase or decrease, the male bird should be looked to as the more satisfactory and more speedy medium. Shape is rather different. Here the female is usually pre-potent. While as regards colour the progeny inclines almost without exception to the influence of the male.

In other matters the influence of the sexes appears to be identical. The general principle of mating, where imperfect birds are concerned—which is a fitting description of the material in nearly every breeding operation carried out—is to balance faults in the one sex by corresponding excellences in the other. Corrected and balanced is the shortness of back in females by the use of a long-backed male; the high tail carriage of the cockerel by extremely low female tail carriage; the hen's short legs and dumpy carriage by the cockerel's inclined-to-stilt-like extremities; the pale coloured tail in the one by the deep-coloured tail in the other. And so long as the breeder, bearing bigly in mind the cautionary advice already given respecting going to extremes, keeps within reasonable bounds with this balancing process, marked progress in the matter of improvement will be noticeable in the progeny.

In introducing new blood into an established strain—a ticklish and at its best a dangerous experiment—it is, wherever possible, advisable to purchase a female specimen. In this way the risk is minimized

exceedingly, as only the progeny that calls this hen mother is affected. On the other hand the introduction of a male of foreign blood affects the whole of the progeny of the particular pen he heads. In every case the chicks hatched from the mating should be carefully marked.

The tendency in breeding from coloured fowls, more particularly in reference to buffs and reds, is for the progeny to be paler in colour than the parent birds. In this way the red speedily degenerates into buff, the buff into a creamy white.

To retain the ideal colour, breeders are compelled, therefore, in mating, to use specimens of a more intense shade than the standard requires. In red varieties the retention of the desirable rich colour not only calls for an intense red in the breeding stock, but an admixture of black as well ; while the rich glossy black seen to such a degree of perfection in the Orpington, the Wyandotte and other breeds, is produced by the use of male birds with red splashes or stripes plainly observable in their hackle plumage.

In-Breeding : Its Advantages and Dangers.—In-breeding, properly and intelligently carried out, is of the most phenomenal value to the breeder ; abused and indiscriminately applied it spells sheer and unmitigated ruin. The mating together of related stock, for such is in-breeding, line-breeding, or whatever you choose to term it, tends to perpetuate and consolidate characteristics both physical and mental. Its danger lies in the fact that it develops and intensifies bad points, abnormalities and weaknesses in precisely the same way as it does desirable traits or features.

Without in-breeding precious little progress would be made in the cult of exhibition poultry and not a few

new breeds would never have known what it is to exist. But on the other hand this self-same process has proved the utter ruin of many a fine race of fowls ; it has by a well-worn and disease-stricken path caused many a breeder to curse the day he ever attempted its application.

The essentials, before ever in-breeding is attempted, are perfect health, constitutional strength, standard size, and perfection in all physical characteristics. Granted the possession of these points in the initial breeding stock, a clearly defined path opens out ahead, and so long as no bird with so much as a suspicion of physical weakness or tendency to deterioration is used, the process of improvement, development and intensification of aimed-at points will continue. The idea, general as it unquestionably is, that in-breeding necessarily and inevitably leads to deterioration in size, increased liability to disease, and delicacy in the progeny, is a fallacy. Only where the practice is abused, as admittedly it very often is, do these evils ensue. Provided the principle of breeding from nothing but the most robust of stock is religiously followed, size can be increased and even the powers of resistance to disease fortified and strengthened.

It is a mistake to bother with in-breeding while the available breeding stock falls appreciably short of the ideal embodied in the standard of perfection. In-breeding fixes faults as well as perfections. Strangely enough, this apparently sufficiently obvious point is often thoroughly overlooked. The idea of in-breeding is not to create new characteristics in a strain—a matter entirely beyond its powers—but to fix, consolidate and intensify points already there. Until the ideal, in its detailed characteristics, has been



11. JERSEY BLACK GIANT COCKEREL.
Bred and exhibited by Mrs. A. J. Jones.

12. ROSECOMB RHODE ISLAND RED COCK.
Winner at Manchester, Birmingham, Crystal Palace, etc.
Bred and exhibited by George Scott, Esq., F.Z.S.

sensibly approached, the grafting of the points of other strains on to shortcomings of one's own is the only way in which one can tread the path of advancement.

Cockerel and Pullet Breeding.—To anyone unversed in the intricacies of exhibition poultry culture it is supremely doubtful if there is in the whole dictionary of its technicalities any phrases that are at once so puzzling and lead to so many misconceptions as the definitions “Cockerel breeding pen” and “Pullet breeding pen.” To construe their meaning, it is necessary to explain that in certain varieties each sex is distinct in colour and markings, while presenting physical and other traits which are common to both sexes. Examples are numerous. There are the Partridge Wyandotte, and the silver and gold varieties of the same breed, several varieties of the Hamburg family; and not a few others in addition. Many varieties of wild birds exhibit these same sexual variations of markings, notably the Bird of Paradise, the Peacock, the Mallard Duck, and many smaller specimens of avian life.

But whereas in the case of wild birds the continuation of these distinctive markings is perpetuated by the incidence of sexual selection, in exhibition fowls the markings have by artificial selection been elaborated and perfected to such a degree that only by special and distinct matings in respect to each sex can these respective degrees of perfection be maintained. For instance, if a perfect exhibition specimen of any of these varieties to which the principle of double-mating, as it is sometimes called, applies, were mated with a perfect exhibition hen the progeny would fall a long way short of the quality of the parent birds; it would in fact, while still exhibiting distinct sexual differences in markings, constitute a reversion to a state of affairs

analogous to what occurs in natural bird life. What the breeder does in effect is to keep his breeding operations, as regards the sexes, as distinct in their spheres of operation as he would in the case of two different breeds. The exhibition cockerels are bred from a perfect male mated with females of the smallest use from a show point of view, but which from their peculiar markings are eminently suitable for producing perfect males. Precisely similar is the method of breeding exhibition pullets

CHAPTER V

BREEDS AND VARIETIES

Ancona.—A light, non-sitting breed of unusually pronounced laying powers, hardy, widely-kept and immensely esteemed for utility purposes, very popular as an exhibition fowl. The ground colour is black, a regular proportion of the feathers being tipped with white. In an exhibition specimen regularity of markings is a point of importance. The Ancona exists in two varieties, single comb and rose comb, the only point of difference being the shape of the comb. The latter variety is of more recent origin and, as yet, has not reached the pitch of popularity achieved by the older variety.

Its nervousness and capacity for high flying causing the provision of high fencing essential as a restraining factor is a disadvantage to the Ancona, and has some prohibitive effect on its popularity.

Australorp (or Australian Black Orpington).—As the name signifies, an importation from Australia, and very similar to the English Black Orpington of twenty years ago. The fact that the Australorp cannot be distinguished by the inexperienced eye from inferior-shaped and under-sized Orpingtons is a factor that is likely to prove the death-blow of the variety. Introduced into this country in 1922, it has had something in the nature of a boom, but for the reasons given I do

not think it will attain any position of permanency in either utility or exhibition circles.

Aseel.—One of the oldest breeds, this, and one to which many modern breeds partly owe their origin. In build very similar to the Indian Game, and pugnacious to a degree, the Aseel was at one time much bred by exhibitors. But its poor laying qualities and its quarrelsome nature have led to its replacement by other breeds and in England to-day it is practically extinct.

Andalusian.—The oldest and most beautiful of all blue varieties, the Andalusian belongs to the Mediterranean class and is a good layer of large white eggs. It is of light build, single combed, and of a blue-slatey colour, each feather being edged with black, giving the laced appearance. At one time the Andalusian was very fashionable as an exhibition fowl, and much kept for egg-producing purposes, but it has fallen on evil days and is now only kept by a small number of fanciers purely for exhibition purposes.

Like all blue fowls, its breeding to perfection of colour is exceedingly difficult, and calls for much skill and experience. Moreover, the percentage of mismarked specimens is relatively high. It is mainly owing to these breeding difficulties that the Andalusian has declined so enormously in public favour.

Barnevelder.—Although to English poultrydom a comparatively new breed, the Barnevelder is in strict truth no modern production, as in Holland, the country of its origin, it has been bred for generations. From a close and careful examination of the best specimens at both English and Dutch shows, I cannot see where precisely lies the attraction in this rather mongrelly-looking black and brown fowl, and I am

doubtful if it will ever have much appeal except from a purely utility standpoint. My observations in Holland led me to believe that the Barnevelder is looked upon, in its own country, as little better than a barndoor fowl. Its points of merit are its really wonderful hardihood and its excellent powers of producing in quantities eggs of a particularly dark rich brown tint.

Brahma.—The majestic beauty of this grand old breed is unquestionable. Fifty years ago the Brahma, in both its varieties, reigned supreme and competition at the shows was of the keenest. To-day its breeding is in the hands of a small coterie of enthusiasts and specimens are rarely seen except at shows like the Dairy and the Crystal Palace. Its huge size (an adult male weighs a matter of twelve pounds), its feathered legs, its poor laying qualities, the small demand for specimens of the breed, render it unprofitable to keep—it is essentially a rich man's fowl. Of the two varieties the Light Brahma is the more popular, but on the score of sheer beauty I am inclined to favour the Dark. In point of fact, the splendour of a Dark cock is well-nigh indescribable. The lustrous black breast, tail and wing bars contrasting with the silvery hackle, saddle and wing bows; the commanding size; the stately, dignified carriage all go to form what may well be called the aristocrat of poultrydom. The female, in common with all specimens of her sex in fowl creation, is of duller hue, her colour being steel-grey finely and distinctly pencilled with black.

The Light Brahma, which incidentally presents less breeding difficulties, in both sexes is a white plumaged bird, carrying a hackle heavily laced with black in addition to a black tail.

Buckeye.—Fairly well known in America, this breed was imported and shown in England some few years ago, but failed to attract the attention of the public. In many respects it strikingly resembles the Rhode Island Red, the only essential points of difference being its pea comb and its shape, which is decidedly game-like. Great claims are made for it as a layer and table fowl. No specimens have been on exhibition at British shows during, at any rate, the past five years.

Campine.—The prettiness of the well-known Belgian breed is beyond question. It exists in two colours, each of which is further sub-divided into two combs. The single-combed Silver variety is far more popular than is the Gold. The ground colour is a lustrous greenish black, each feather being barred with white or golden yellow as the case may be, the only exception to this being the hackle, which should be pure white or golden. The Campine is distinctly small and slight in build, can fly (on occasion) like a pheasant, and lays an exceptionally large white egg with industry and regularity. A matter of a dozen years ago the breed had something of a boom, but it has now dropped considerably in the matter of popularity. Despite its manifest unsuitability for certain localities, it is a matter for much wonder that a breed of such pronounced beauty and possessed of such satisfactory utility powers does not appeal to a wider circle—it assuredly possesses all the qualities that are essential to soaring popularity.

Chantecler.—A breed of recent American origin, medium in size, pure white in colour, with yellow legs. Great and, as is customary with new American productions, extravagant claims are made on its behalf.

To the best of my knowledge the Chantecler has not yet made its appearance at any English shows.

Creve-Cœur.—An old French breed, which at one time was widely bred in England, but is now rarely seen. Its utility qualities have been more or less sacrificed, and it now ranks as a purely ornamental breed.

It is a medium-sized, black-plumaged fowl and boasts the peculiarity of carrying a large crest on the crown of the head. The comb is unique, being small, and in formation resembles two horns. Like all breeds which flourish anything in the way of a crest or other form of head feathering, Crêves are peculiarly and persistently addicted to colds and roup, while the chickens in consequence are somewhat difficult to rear.

Cochin.—With the solitary exception of the Brahma, in all the ranks of poultrydom there is no breed which for sheer majesty and dignity can surpass this "father" of the fancy. Its profusion and looseness of feather give an appearance of giant size; its massive foot-feather adds to its uniqueness. Existing in four colours, White, Buff, Black, and Partridge, the two first named varieties are the most popular; if the word popular, even as a comparative term, can be used in relation to a breed that is only kept by a mere handful of enthusiasts, and specimens of which are rarely seen except at the classic shows. Its large size and consequent capacious appetite, its unsuitability for many environments, its lost utility properties, render it a very unprofitable fowl for the average poultry-keeper, and to-day its claims are of a purely æsthetic and ornamental brand.

Dorking.—One of the oldest of English fowls, the Dorking is pre-eminently a table bird, and as such

gained at one time an immense and widespread popularity. It is a large, long-bodied, low-set, short-legged, prominent-breasted bird, possessing as a unique feature an additional toe, making five in all. Its flesh and skin are white. It runs into four varieties; Dark, Silver-grey, White and Cuckoo. The former two are mostly seen at the few shows where classes are provided for a breed which is now to be seen on very few establishments. The lack of robustness which many adult Dorkings plainly show, the delicacy of the chickens, and the absence of any exceptional attainments in the way of laying have beyond doubt had a good deal to do with the breed's steady and continued decline in popularity.

Dominique.—Unknown in England, this American breed is reminiscent of a small, short-backed, Barred Plymouth Rock, with a rose comb. It is said to be an excellent utility fowl, but is not widely kept even in its native land.

Faverolle.—To me it has ever been a matter for surprise that this really handsome and fine utilitarian French breed has not been blessed with wider popularity. Its full breast, large and deep body, tell plainly enough of laying and table capacities that a trial serves to substantiate. The British public, however, looks with a somewhat intolerant eye on physical characteristics that verge in any way on the abnormal, and for this very reason the beard and muff and the feathered legs which the Faverolle flourishes with manifest pride have doubtless had a good deal to do with its stagnation.

The most typical colours are Salmon and White, but the breed is also seen in Black, Ermine, Buff, Blue, Red, Spangled and Laced varieties.

Frizzles.—Of all the breeds of poultry produced by nature and man, and they number not a few, for sheer queerness of looks the Frizzle vies with the Naked Neck and the Silkie for pride of place. While classed as a heavy breed, the Frizzle is distinctly on the small side; exists in many colours and in both single and rose combs. Its peculiarity is the frizzled, somewhat withered or shreddy, curly appearance of the feathers which, instead of lying flat as in ordinary fowls, curve backwards and upwards. Although possessed of good laying powers and very hardy, the breed only appeals to those with a love for the *outré*, and specimens are rarely seen in the show-pen.

Game (Modern).—There was a time when the long-limbed, stilty Modern Game was present in big numbers at every show of note, and prices for exhibition specimens touched a fabulous figure, but during recent years its popularity as a fancy breed has fallen off lamentably, and at the few shows which schedule classes, the turn up of exhibits is relatively few. The breed has no pretensions to utility qualities. It exists in many varieties, Black-red, Piles and Duckwings being the best known. The Modern Game, as shown and bred to-day, is in reality nothing less than a heteroclite; it represents a monumental instance of how man, in his striving for abnormal features, can produce a type verging on the ridiculous.

Game (Old English).—The oldest English breed and one, too, of rare beauty. Originally bred for fighting purposes, although cock-fighting is now only indulged in surreptitiously, the Old English Game, with generations of breeding for stamina and gameness behind it, is still the terror of the fowl run. Strong, hardy, virile, it is an excellent layer and utility fowl, and deserves

a much wider recognition of its merits in this connection. Its quarrelsome nature and pugnacious instinct have done much to alienate the sympathy and liking of the ordinary poultry-keeper, and for this reason it is as an exhibition fowl that the breed frankly exists to-day.

Spangles, Black-reds and Piles are favourites, but one also meets with Greys, Duckwings, Brown-reds, Whites, Wheatens. The chickens are hardy to a degree, but the combative and quarrelsome nature of the breed asserts itself at a very early age, and the infinity of trouble in rearing, necessitated through constant separations of pugnacious youngsters, is enough to drive an archangel to drink.

Game (Indian).—It is not given to everyone to appreciate the beauty of the Indian Game. The blocky, wide-chested body ; the thick, bowed and wide-apart legs ; the vindictive expression, all tend to stamp the breed as essentially something different and indeed unique in poultrydom. The glorious black of the male, and the beautiful pencilling of the hen, however, cannot fail to appeal to the lover of all that is truly fine in fowl creation. Of the old breeds not a solitary one retains its place in the exhibition world as does the Indian. Competition is keen and the prices of the best specimens rule universally high, while the demand is relatively good. Frankly a show bird, the breed has never appealed to the small poultry-keeper, nor, owing to rearing and other difficulties, is it to be recommended.

Game (Black Sumatra).—For sheer beauty there is much to be said for this old breed, hailing as the name sufficiently indicates, from the Island of Sumatra. It is a bird of medium size, with beautiful lustrous

black plumage, of graceful form and carries a long drooping tail of pronounced beauty. Its claims are mainly ornamental and, as a consequence, its breeders number but a few, and specimens are only seen at the large shows.

Hamburgh.—If beauty of form and of feather were the end and aim of poultry-breeding, the Hamburgh would undeniably stand head and shoulders above all the rest. In all domestic bird life the silver spangled Hamburgh is in the matter of splendour a supreme work of art. At one time very widely kept and greatly favoured for its laying qualities, it has latterly fallen on evil times, with the result that to-day the Hamburgh is purely an exhibition fowl, and a not very popular one at that. Of small size and a producer of a small egg, it exists in Black, Silver Spangled, Gold Spangled, Silver pencilled and Gold pencilled varieties. The breeding of the Hamburgh, to the high degree of perfection demanded for the show-pen, calls for great skill and much experience. Moreover, double mating is necessary, which is a decided disadvantage, especially in the case of a breeder of limited means and space.

Houdan.—This old French breed is a good table fowl and lays satisfactorily, but has the disadvantage of flourishing a large crest on the crown of the head and a heavy beard. These crested fowls, although possessing an attraction of their own, are not suitable for all conditions, nor is it advisable to run them with other breeds devoid of crests and beards. In shape and size the Houdan is not unlike the Dorking, the plumage being mottled black and white.

Java.—An American breed, not known in the British Isles. It resembles somewhat the Plymouth Rock,

carrying rather more tail, and being considerably lower on leg. It is bred in two varieties, Black and Mottled (black and white).

Jersey Black Giant.—This, America's latest and most loudly drum-banged production, is described as having a wonderful future. And from careful observation of the few specimens seen at English shows I am not, in this particular case, disposed to disbelieve the prophecy. The breed, with its blackness of remarkable lustre, its graceful shape, its imposing build, and, despite its huge bulk, possessed of an eminently business-like air, impressed me as being brimful of possibilities. Originated some considerable time ago in New Jersey for strictly utility purposes, the "Giant" has the distinction of being the largest utility breed. Indeed, its originators would seem to have set out to prove in the most practical manner possible the fallacy of the wide-spread notion that utility is inconsistent with size; and from egg-laying records of unimpeachable authenticity that it has been my privilege to see, there can be no question that they have succeeded hugely. The standard weight of the cock is given as 13 pounds, and of the hen 10 pounds, so that the term "Giant" is no exaggeration. Decidedly does this "Giant," hailing from New Jersey, offer to the beginner an admirable opportunity.

Langshan (Croad).—This one-time immensely popular breed is justly famed as a layer of a very rich deep brown egg, and as an excellent table fowl. Its blackness is heightened by the carrying of an extraordinary degree of lustre. In shape the Croad Langshan shows some slight resemblance to a utility Orpington, but the tail is carried high, and the legs and feet are decorated with feathers. It breeds remarkably true

to shape and colour. Stagnant for an extended period, the breed has during the past twelve months enjoyed a well-nigh staggering resuscitation. To-day it ranks high on the scale of popularity and is a most profitable and promising breed for anyone to take up.

Langshan (Modern).—An abnormality is the only fitting description of this long-legged fowl. Evolved from the older type of Langshan its tremendous length of leg gives to it a stilty appearance. It exists in black and blue varieties, but is only bred by a small band of enthusiasts, and classes are, in consequence, rarely seen except at the classic events.

La Bresse.—The little French fowl has earned a deservedly high reputation wherever it has been given a trial. About the size of an Ancona, which it also somewhat resembles in shape and carriage, flourishing a single comb, it is an excellent layer of a good sized egg, a non-sitter, satisfactory as a table fowl, a small eater and in consequence eminently profitable to keep for utility purposes. It is no new breed, but for some unexplainable reason, has not received much attention until the past few years. It is, however, growing rapidly in popularity both as an exhibition and a utility fowl, and offers admirable opportunities to the beginner. The Black and White varieties are most popular, but it also exists in Buff, Blue and Grey.

Lakenfelder.—The indifference of the public to the claims of this singularly pretty fowl is one of the mysteries which, I am free to own, appear unsolvable. Of the bigness of the Campine, it is a study in black and white, the hackle and saddle of the male being black with white wings and tail. Like most of the

light breeds, it is a good layer and a small eater. Except at one or two large fixtures, the Lakenfelder is never seen on the show bench, and the number of its known breeders could be comfortably counted on the fingers of one hand.

La Fletche.—Another of the French breeds that had such a run of popularity some thirty years ago. Large-bodied, full-breasted, in carriage somewhat resembling the Minorca, it makes an excellent table fowl, and has some slight reputation as a layer. The colour is a rich lustrous greenish black. Its dominant peculiarity is its bizarre comb, which is small and has two horns standing practically upright on the head.

Leghorn.—For countless years has this breed, in some of its varieties at any rate, been one of the most popular, not only in England, but in America and many other countries. Its graceful carriage, its small appetite, its capacity for producing large eggs at as quick and assured a rate as any other specimen of fowl creation, have earned for it a wonderful reputation and truly remarkable degree of popularity. The Leghorn is divided into numerous varieties and sub-varieties, of which by far the most popular are the White and Black. Yet again is the White existent in two distinct and widely divergent types, exhibition and utility. The exhibition type is radically different from any other variety of Leghorn, being twice the ordinary size, with the length and thickness of leg of the Minorca, and carrying comb and wattles which by persistent selective breeding have reached an enormous size. Accompanying the developments of these abnormalities has been a decline in economic qualities, and, as a result, the exhibition White Leghorn has a very small following.

Now the utility or natural type Leghorn is beyond any question one of the most widely kept fowls on earth. It is the standard variety for practically every commercial egg farm in England and America, and in this particular connection has gained an unexampled and well-deserved reputation. Possessed of prolific laying powers, early maturity, meagreness of appetite, the capacity to stand confinement well, hardihood, it fills the bill in every respect. Every poultry-keeper who aims at the production of large white eggs at a minimum cost, whether he be a backyarder or a large poultry farmer, will be well advised to keep the utility White Leghorn.

The Black variety is growing rapidly in popularity amongst utility poultry-breeders. In exhibition circles it keeps at a steady level, but does not seem to attract new recruits. The Brown Leghorn is practically limited to those who breed it for show, and the necessity for double mating has done much to account for the smallness of its following. Blues had a temporary boom some few years ago, but here again the heavy percentage of mismarked specimens caused beginners to give up the variety in sheer despair, and its circle is a very small one. The Exchequer has gained considerable fame as a layer. Its close resemblance to the Ancona, however, is likely to prevent its boom being anything more than a temporary one. The Buffs, Reds, Cuckoo and Pile are other varieties; each having its small coterie of enthusiasts. None of these colours, however, can be recommended to the beginner.

Malay.—One of the most ancient of all breeds and originally an importation from Asia, the Malay has been largely used in the origination of new breeds

and varieties. The fierce, almost vindictive expression, intensified by the heavy overhanging brows and hooked beak, the tremendous limbs and reach, the powerful frame, the almost featherless face and throat, the absurdly small and unique comb, render the breed outré and distinctive. Physical characteristics are, in this breed, of major importance and entirely transcend colour and markings. Pugnacious to an eminent degree, cruel, and, from the point of view of most people, markedly ugly, the Malay has never made any general appeal to the public.

To-day it is rarely seen even at the biggest shows and the number of specimens in existence in this country cannot be a large one.

Malines.—Considerably bred in Belgium, the land of its origin, where it is famed as a table fowl, the Concou de Malines, to give it its full title, was bred and exhibited in this country some twelve years ago, but I have heard no mention of it, nor have I seen so much as a solitary specimen, for a matter of five years. Its strong colour resemblance to the Barred Plymouth Rock, its feathered legs and ungainly appearance, militated very strongly against its bid for popularity.

Marsh Daisy.—Like all new breeds of more or less nondescript origin, extravagant claims are made in favour of this less than five years old breed. In colour, shape and size the male somewhat resembles the Sicilian Buttercup, while the female is in appearance akin to a Wheaten Game. Already apparently on the wane, it is scarcely worth serious consideration as a show bird, but may prove quite satisfactory where looks are not much of a consideration, as the breed indubitably possesses strongly developed and highly satisfactory utility propensities.



13. SICILIAN BUTTERCUP COCKEREL.
 Winner (1st), Club Show, Derby, 1923.
Bred and exhibited by Mrs. Arthur Sherston.

14. LIGHT SUSSEX HEN.
 Winner of many prizes at the Royal and other Shows.
Bred and exhibited by James Russel, Esq.

Mendel.—The name given to a breed originated by the late Oscar Smart, medium in size, long-backed, deep-bodied, and, except for a single comb, carrying nothing in the way of ornamentation; the fowl was bred by its originator with the distinct and specific object of associating in one bird, and to the highest possible degree, egg-producing and table qualities. Its colour varieties are Black, White, Buff and Blue, of which the two former appear to be best known.

Only bred to perfection in recent years, the Mendel has not yet made any pronounced progress, and as a show bird is comparatively unknown. It is certainly a breed which should appeal to the utilitarian.

Minorca.—Half a century ago the Minorca held almost undisputed sway as a wonderful layer of an astonishingly large white egg. Every poultry-keeper indeed whose aim was to obtain eggs satisfactory alike in size and number swore by the Black Minorca. No less popular was it as an exhibition breed and great were the entries and keen the competition at shows, big and little, and all England through. But the Black Minorca of those days was a medium-sized fowl with sensible head-points. To-day through the consistent breeding for exaggerated points, the Minorca is little less than a monstrosity—a long-legged, raky bird, flourishing a huge piece of tottering red flesh by way of a comb, and dangling heavy wattles. The once-pronounced laying powers are gone, and coincidentally the breed has declined in popularity to such an extent that it finds no place on the modern egg-farm, while its exhibitors are pretty nearly countable on one's two hands. The White Minorca is, I think, extinct. Some years ago a rose-comb variety was evolved, but despite a more sensible standard of perfection and

the unceasing efforts of its promoters, it never caught the public eye, and is not widely kept. During recent years a much smaller utility type of Minorca, with medium-sized comb and lobes, has been evolved, and this may possibly have a bright future.

Naked Neck.—Of all the queer breeds of domestic fowl that one can hope to set eyes on I think the palm may easily be given to this positively unique Transylvanian production. The neck in both sexes, from the head to the shoulders, looks for all the world as though it had been plucked bare of every vestige of feather or down. In other respects the breed has not one jot or tittle to commend it, and in neither colour nor shape exhibits any fixity or regularity.

Old English Pheasant Fowl.—Although only given this name some few years ago, the breed is in reality one of the oldest known to English poultry-keepers, and in the Northern part of England, at any rate, has been bred under a variety of names for at least a century. While very similar to the Golden Hamburg in shape and colour, it gives the impression of being a somewhat larger edition without the perfection of markings and elaboration of head points that are such features of the purely exhibition Hamburg. As a layer the breed has a great name. Its only drawback as a utility fowl is its highly developed powers of flight. In the exhibition world its resemblance to the more beautifully finished Hamburg is decidedly against any extended degree of popularity.

Orloff.—Although amongst the oldest known breeds and famed as a layer and “thing of beauty” in Russia for a matter of two centuries, it was not until 1914 that the Orloff received any serious attention in England. At that time the writer was instrumental

in bringing it before the English Fancy and a considerable measure of popularity was attained.

Its unique appearance, excellent laying and table properties, and remarkable beauty attracted much attention. It exists in four varieties; Mahogany, Spangled, White and Black. The Mahogany cock is one of the most strikingly beautiful birds in fowl creation; the gorgeous orange hackle and saddle, the black breast and the deep mahogany back and wings make a remarkably entrancing picture of beauty. The physical characteristics of the Orloff are plainly unique. The body is of powerful build, somewhat game-like in general outline, with tail carried high; the head is pugnacious with a comb resembling a raspberry cut in half length-wise and the face is bearded and muffed. A parrot bill and a neck on which the feathers swell out midway down its length to the thickness of a wine bottle, at the same time twisting and curling, add to the strange appearance of the bird.

The Orloff, in spite of its exceptional utility qualities, has, however, failed to hold the public fancy, and after enjoying for a couple of years something resembling a boom it has subsided into the hands of a few enthusiastic breeders and exhibitors.

Orpington.—Well-nigh unending are the varieties of this widely disseminated breed, which extends its ramifications almost yearly. Originally produced by the late William Cook of Orpington, from whence the name is derived, the present-day specimens bear but slight resemblance to the original type. The Orpington is a large-sized fowl, with deep, wide body and full breast, short curved back, single comb and clean legs. Its feathering is profuse and somewhat loose and the

general contour one of flowing curves as opposed to any angularity of outline. The oldest variety is the Black, which has reached the highest stage of perfection, and is bigger than any other branch of the Orpington family. Its wonderful quality of feather in combination with its massive appearance render the Black Orpington a fowl of impressive beauty. It breeds remarkably true to shape and colour, but unfortunately the development of abnormal size has not been unaccompanied with loss of laying powers, with the result that the variety is to-day bred only for show purposes. Next in order of origin came the Buff. A better layer than the Black, this variety a matter of a score of years ago had a remarkable run of popularity, but with the veering of fashion in favour of other colours, it has declined enormously and now is in small demand. The White is of comparatively recent manufacture, having been bred, in a relatively short time, to a really remarkable degree of perfection. Its loss of utility qualities through straining to satisfy a craze for excessive size has sufficed to restrict its breeding to the ranks of purely exhibition poultry-keepers. Of the other varieties, the Blue is perhaps the most popular, but, as in all fowls of this colour, breeding difficulties are of such a nature as to restrain those who are foreknowledgeed, and disgust those whose ambition and ignorance lead to an attempt being made to produce the blue plumage in anything approaching perfection.

The Jubilee, the Spangle, the Red are very rarely seen—the White-laced Black and one or two more are, I think, already buried.

Plymouth Rock.—This vastly popular American breed has an ancestry running back for well over half

a century It is of medium size, long-bodied, well-proportioned, strong-limbed, single-combed. Its utility qualities are of a high order : a good winter layer, a fine table fowl, very hardy and vigorous. The original and most popular variety is known as the Barred ; its colour being a mixture of black and white in the form of alternate parallel and regular bars across the feathers. The breeding of this variety to the perfection of markings now demanded for successful exhibition is exceedingly difficult and calls for much knowledge of and experience in the art of mating. For this very good reason the Barred variety is not one to be recommended to the beginner. The Buff is held in high esteem by many utility breeders, but has never made any very decided headway in the exhibition world—it came in at the moment when the boom in buffs had reached its apex and never even menaced the commanding position then held by the Orpington of the same colour.

The White Rock has a great following in America. After many determined and yet vain attempts to capture the attention of the British public, it has subsided to a position of stagnancy in a very small pool of its own making. The Blue, the Partridge and the Silver-pencilled have in turn made a small splash—if not already extinct the chances apparently are that they very soon will be.

Poland.—Frankly this can only be described as an ornamental fowl, and only to the lover of the bizarre can it have any appeal. The Poland is a bird of antiquity and its own peculiar characteristics are well established. It is not, however, by any means a fowl of much robustness—in common with all bearded and crested varieties it is undeniably delicate. The

chickens are difficult to rear and the percentage of roach-backs, wry tails and other forms of physical deformity is uncommonly large. Consistent in-breeding, too, has done much to sap any original vitality the breed may have possessed. Its dominant and most-to-be-admired feature is the large and intensely beautiful crest which both sexes flourish. The Poland is exhibited in three colours; the Silver Spangled, Gold Spangled, and White Crested Black, and in the matter of sheer attractiveness it is hard to say which leads. It may be mentioned in passing that the breed did not originate in Poland; as a matter of accurate fact its origin has never been definitely traced to any particular country.

Redcap.—One of the oldest English breeds, the Redcap, although a good all-round utility fowl, has never attracted any considerable attention. Its outstanding peculiarity is its comb, which is something in the nature of a glorified rose-comb, being of great size, symmetrical in shape, deeply and regularly indented with long fine spikes, and terminating with a leader projecting well behind and away from the neck. Common to Yorkshire and Derbyshire, its great reputation amongst farmers and utility poultry-keepers as a remarkably prolific layer of a rich brown egg has for some unaccountable reason failed to gain for it more than localized popularity and rarely indeed does one come across a specimen either at a show or elsewhere in any but the counties mentioned. Its shape, colour and markings resemble somewhat those of the Golden Spangled Hamburg in a none too perfect form. Certainly it deserves, this Redcap, a wider and more fitting recognition; in the perfection of its general utility qualities it has claims which

many a popular favourite possesses in a much smaller degree.

Rhode Island Red.—One of the world's most popular breeds, the Rhode Island Red first attracted public attention in the States during the final decade of the nineteenth century. A matter of ten years later it became something of a force in England and, during recent years, in all Britain. In the Americas and in many another country it has marched to popularity with the vast and all conquering stride of a giant. The qualities that have gone to the commanding of such prodigious and well-nigh amazing success are the remarkable utility powers of the breed in combination with beauty to an exceptional degree, in the one type of fowl. In not a few varieties, notably the White Leghorn and White Wyandotte the utility type is distinct and bred quite apart from the exhibition type, in each variety there being virtually two distinct sub-varieties. The exhibition standard for the Rhode Island Red outlines an ideal utility type; and in consequence the exhibition Red turns out eggs with all the industry of its more plebeian-looking sisters. It is this combination of utility and exhibition points in the one bird that has contributed not a little to the breed's soaring and well-nigh incredible success. In shape the Rhode Island Red is between the Rock and the Wyandotte; it lacks the coarseness of the former; the rotundity and flowing curves of the latter. Angular, almost brick-like in shape, showing great length of body, lowly carried tail, an alert air, great vigour, it is remarkably hardy, adaptable to any climatic conditions and every species of environment. A wonderful winter layer and an excellent table fowl, its utility properties endear it to all who give it a

trial. The colour is a deep brownish, almost mahogany, red, and in the perfect exhibition specimen the neck, back, breast, body and wings are all of precisely the same shade of colour, the whole effect being heightened by a black tail and rich yellow legs.

The breed exists in two varieties, single comb and rose comb, the former being, for some unexplainable reason, immensely the more popular. The Rhode Island Red is a most profitable breed to keep, for apart from and in addition to its economic properties the birds command a ready sale, and the demand for exhibition specimens at remunerative prices is a never-failing one.

Rhode Island White.—Of American origin, the standard description is that of a fowl which, in the matter of size and shape, is an exact prototype of the Rhode Island Red. The colour is pure white throughout. The Rhode Island White has a considerable following in the States, but although seriously introduced to English poultry-keepers a matter of three years ago, it has as yet made remarkably little progress. It presents, however, considerable possibilities, having every one of the virtues that go to the commanding of big success. In particular it offers to the beginner an exceptional opportunity—the scope for his enterprise is unlimited.

Sultan.—The breed is purely ornamental, and is of little more than Bantam size. It is pure white in colour, practically wattless, carries a very small double-pointed or horned comb, flourishes feathered legs, an extra toe, vulture-hocks, a muff and beard. The outstanding feature, however, is a large globular crest, which considerably enhances the beauty and

adds not a little to the bizarre appearance of this strangely peculiar fowl.

Scots Dumpy.—A breed of ancient origin, the breeding and exhibiting of which is practically confined to Scotland. Its main features are its squat long body, short legs and a peculiar waddling movement when walking.

It is somewhat small, exists in several varieties, Black, Silver and Grey being the most familiar, and is reputed to be hardy, an unbeaten table fowl, and a good layer.

Scots Grey.—A breed, as the name signifies, of Scottish origin. Smaller and blockier in build, it resembles somewhat an under-sized and badly marked Plymouth Rock. Although undeniably an excellent general purpose fowl, the Scots Grey has never become universally popular, but maintains a steady and restricted reputation amongst Scottish poultry-keepers, and is rarely seen either in or out of the show-pen south of the Tweed.

Sicilian Buttercup.—Some ten years ago this breed, originating in Sicily, but coming to these islands by way of America, made something of a stir and enjoyed for a matter of two or three years a considerable boom, which afterwards cooled down to a fairly steady level of popularity. With a great name as a layer, a very small appetite, it is somewhat surprising that the Buttercup is not more generally bred for purely utility purposes. The difficulty of breeding to standard colour and markings, and the pheasant-like flying abilities of the breed, have no doubt had something to do with its decline in the exhibition world. The original and most favoured variety is the Golden, the male of which resembles somewhat in colour the Golden

Hamburgh, the female being regularly marked with black spangles across the golden ground colour. The Silver variety is seldom seen, but the Brown Buttercup, which in colour is precisely similar to the Brown Leghorn, has attained some slight measure of popularity. The distinguishing feature of the breed is the peculiar cup-shaped comb, which is dissimilar to that carried by any other brand of hen and is very difficult to breed to perfection.

Silkie.—Of almost Bantam size with a stumpy body, short heavily-feathered legs, five toes, purple face, flourishing a crest, the plumage throughout being devoid of web and of the texture of fine silk, this breed is in every respect abnormal and remarkable.*

Its laying powers are meagre, but it makes a most excellent sitter and in consequence is much used by fanciers for hatching valuable eggs. Crossed with other breeds to increase size, its sitting propensity is retained.

Spanish.—This black fowl, with its huge white face, giving an appearance strikingly dissimilar to that of any other breed of domestic fowl, resembles in contour and size the Minorca, and a matter of half a century ago was very fashionable in exhibition circles, enjoying an unbeaten reputation as a splendid layer of large eggs. To-day I very much question whether the most diligent search throughout all the marches of England would unearth half a hundred specimens. Certainly

* There is every reason to suppose the feathering of the Silkie, like that of the Frizzle, to be a species of malformation. Precisely the same form and texture of plumage is continually cropping up in many breeds. The author has had many cases of Rhode Island Reds with a modified form of Silkie feathering and there is little doubt that this peculiar plumage could be produced in any breed by close and systematic selective in-breeding.

for the past five years I have not set eyes on so much as a solitary representative of the breed. There can be little doubt that the continual and frantic efforts to increase out of all natural semblance the huge white face of the breed contributed not a little to the economic degeneration of the Spanish fowl.

Sussex.—A production of the county the name of which it bears, its breeding for many years was confined to Sussex and immediately adjoining districts. In point of fact it was not until the beginning of the present decade that the Sussex made any determined and serious bid for wider recognition. During the past few years, however, its growth has been little less than phenomenal, until to-day the Light Sussex has easily out-distanced the majority of its competitors, being only equalled as regards this country in point of popularity by the White Wyandotte, and only surpassed by the Rhode Island Red. Its business-like build, excellent laying and table qualities, hardiness and vitality, the entire absence of abnormalities in its standard of perfection, little wonder that such an eminently utilitarian breed as is this Sussex should, with the wider recognition of its merits, have become excessively popular. In build rather heavier and more rounded than the Rhode Island Red, it carries a single comb, and has white legs and skin. Of the several varieties, and they number not a few, the Light Sussex, which resembles in markings the Columbian Wyandotte and Light Brahma, is vastly the most popular; followed at an appreciable distance by the Red. This latter, in appearance, is not unlike the Rhode Island Red, but the impurity of the colour through the heavy admixture of black and white, and its white legs, considerably lessen its attractiveness.

Wyandotte.—With the solitary exception of the Rhode Island Red no breed has attracted more world-wide attention and attained such universal popularity as has this splendid American. No precise or definite information as to its origin is available, but the first fowls to be known by the name of Wyandotte appear to have been exhibited in England in the early eighties. The main characteristic of the breed is its wide, deep and rounded shape, lacking alike the clumsiness of the Orpington and the angularity and coarseness of the Plymouth Rock. Size varies considerably in the different varieties, the White being by far the largest. The comb is a neat and not too large, rose-shaped, well-worked decoration; and the legs are free from feathers and richly yellow. Its excellent laying qualities, its table properties and its hardiness have earned for the Wyandotte its vast popularity. By far the most popular, though by no means the oldest, is the White variety. In all the perfection of beauty attained by the exhibition breeder, the White Wyandotte indubitably is attractive to a degree. The constant striving for size is, however, having a markedly deleterious effect on the variety, and has led to its division into two distinct and widely divergent types; exhibition and utility.

The Silver and the Gold, undoubtedly the two most beautiful varieties of the tribe, present great difficulties in breeding, and the necessity for double-mating condemns them so far as fanciers with limited accommodation and restricted pockets are concerned. Of great beauty, too, is the Partridge, and a quarter of a century ago this variety enjoyed a tremendous vogue. Here again double-mating is essential. To-day few specimens are seen except at the classic shows.

The Columbian, the Blue, the Red, and the Buff have all failed to achieve any high degree of popularity; while the Black, after a sensational, but short-lived boom, has sunk into a very minor position.

For those exhibition breeders to whom a white fowl appeals (for sheer stark beauty, the white, of all absolute self colours, can claim a peerage), and who in addition are not averse to the incidental troubles in connection with successful exhibiting, no variety can be more strongly recommended as a money-maker than the White Wyandotte. But in its utility type the variety lacks both allurements of shape and purity of colour.

Yokohama.—The long-tailed fowl of Japan has never been widely kept in this country, and is eminently unsuitable for the average poultry-keeper; its claims being peculiarly and solely ornamental. Its main characteristic is the long tail, reaching in some cases four or five feet in length. Obviously requiring special management, it involves difficulties in rearing and showing which are sufficient to restrict its breeding to a few amateur enthusiasts. Its beauty is unquestionable; its fascination remarkable. For those who have the special facilities for rearing and management which are called for, the breed is well worthy of attention.

Bantams.—Within the limits of this work it is manifestly impossible to even attempt to describe every individual breed and variety of Bantam, nor is such description either necessary or advisable. Seeing that a Bantam is neither more nor less, in the vast majority of instances, than a dwarfed edition of the ordinary fowl, it will be sufficient to notice those

particular varieties of which there are in existence no replicas amongst the list of breeds of ordinary fowls which have already been considered.

Before proceeding to this, however, it may be well to point out the most popular and most profitable breeds of Bantams for the beginner to take up. Game, both Old English and Modern, in most of their varieties, maintain a steady level of popularity. The beginner, however, in the case of these, as with most of the older varieties, such as Rose-combs, Brahmas, Pekins, Hamburgs and Japanese, is at a decided disadvantage in comparison with practiced and experienced breeders. In the newer breeds, he starts practically on equal terms with everyone. For this very good reason it is strongly advisable that the novice who is hunting for kudos or money, should take up such a breed as the Rhode Island Red, the Sussex, the Minorca, or the Ancona. He may at a later date, and after the achievement of some sort of reputation, take up other older and more difficult breeds as his fancy dictates.

Rosecomb.—Existing in Black and White varieties this breed is characterized by short legs, brilliant plumage, great flow of feather, and a neat spiked rosecomb. At one time enjoying immense popularity, it is now in very few hands and its breeding and exhibition call for expert knowledge and skill. It is not a breed for a beginner.

Sebright.—Originated about a century ago by Sir John Sebright, this remarkably beautiful bird in the perfection of its lacing is a veritable work of art. The two varieties, Gold and Silver, are equally entrancing. Unfortunately in striving for the exquisite beauty of markings, the vitality of the breed has been somewhat

undermined, and the youngsters are not amongst the easiest to rear. Despite this, the breed is one that offers opportunities to the beginner and is deserving of much wider support.

Japanese.—An old and peculiarly attractive breed, single-combed, short-legged, heavy-bodied, drooping-winged and squirrel-tailed. It exists in White, Black, and Black-tailed White, the latter perhaps scoring on the ground of attractiveness.

CHAPTER VI

WATERFOWL AND TURKEYS

DUCKS.

Under exceptionally favourable circumstances, the breeding of ducks, from a purely commercial aspect, can be made a more profitable undertaking than hen-farming.

The essentials to success are suitable land (and water), a thorough knowledge of duck culture, and nearness to good markets. In addition, the right brand of duck must be kept. The gaudy-coloured and grotesquely-shaped ducks are frankly ornamental and must be left for those who wish to decorate local ponds, while the huge exhibition Aylesburys, Pekins, and Rouens are similarly of the smallest use. Runners, Magpies, Orpingtons, Khaki-Campbells, Coaley-Fawns, Penguins and their various crosses are the only breeds in the propagation of which one can be reasonably confident of securing a profitable return. The management of ducks is in some respects simpler than that of fowls, and certainly the necessary equipment is considerably less costly. A low shed or house is all that is required for sleeping accommodation—care should, however, be taken to ensure absolute dryness. It is a common mistake to suppose that ducks, being water-fowl, will manage with any kind of damp sleeping quarters. This is entirely a fallacy, and a most mischievous one

at that. Wet they may be all day long, and indeed if there is any water or mud available they will wallow in it from sunrise to sunset, without anything in the way of evil results ; but at night dry sleeping quarters are essential to their health and well-being. Straw or hay should be plentifully provided, or, failing this, peat moss. But whatever be the nature of the bedding it should be well shaken every day and renewed when it gets damp or dirty, which will be pretty frequently

Ducks do not require such extensive runs as hens and a run measuring some twenty-five yards by ten yards will comfortably accommodate a score ; while a three feet wire-netting fence will be sufficient to prevent any straying. Much smaller runs will suffice for the breeding stock. Two ducks are sufficient in the way of wives for most drakes and where exhibition specimens are bred and a knowledge of pedigree is essential the division of the breeding stock into trios is assuredly the best system.*

Utility breeders, however, through considerations of space, prefer to run their breeding stock in flocks, allowing an average of three or four ducks to each drake, and giving them a considerable area to roam over. While swimming water is not absolutely necessary, breeding ducks do much better and the eggs are more fertile, where a pond or a running stream is available. Failing this, a small artificial pond may be constructed, or, where circumstances preclude this, a large shallow bath should be provided. It may be noted, and in making a choice the novice would do well to give this point serious attention, that breeds

* The wild duck is monogamous, but like the guinea-fowl and other species of birds, under domestication it quickly becomes polygamous.

vary considerably in this matter of requiring swimming-water, and while some of the purely ornamental breeds would probably sicken and die through the absolute deprivation of water for swimming exercise, the Aylesbury, the Pekin and the Rouen will manage comfortably and happily with a small artificial pond ; while the Runner and the Magpie can be kept and bred with no further provision as regards water than the amount dealt out to the average hen. It is not, however, to be inferred that in such circumstances these Runners and Magpies will thrive and multiply every whit as successfully and plenteously as where free range and a river are there for the enjoyment, but they may be depended upon to give manifestly satisfactory results.

The feeding of adult breeding ducks is tolerably simple. Basically the food should be a wet mash consisting of scalded bran mixed with middlings, pea meal and barley meal, with ten per cent. meat meal or fish meal. Occasionally a meal of hard grain, wheat, maize or oats, or a mixture of the three, may with advantage take the place of the wet mash. Two meals a day are sufficient, and where ducks have free range and access to a pond or running stream one meal a day is ample and even at that it need only be a sparse one. The supply of flint grit should be plentiful and in addition to an ever-filled trough it is advisable to scatter some at the bottom of the drinking vessels.

Ducks' eggs are best set under a hen—the ducks themselves rarely going broody and owing to their extreme nervousness, excitability and clumsiness being largely unreliable. On large duck-farms artificial incubation is generally adopted, but although this subject is dealt with at some length, under incubation,

the beginner will find it better to let the machines alone and confine his hatching operations to nature's method. The time of incubation is twenty-eight days, and the best results are obtained by making the nest on the earth itself, scooping out the soil to make a basin-like cavity and lining it with straw. The eggs should be well damped with warm water on the twenty-sixth and twenty-seventh days. Except for the first week, ducklings do not need and are infinitely better without a mother. Their rearing presents little in the way of difficulty, the main essentials being the ensurance of comfortable and dry sleeping quarters and the provision of adequate protection from the hot rays of the sun during the day. A matter of thirty-six hours or so after birth a saucer of water on the surface of which a little oatmeal has been scattered should be given them, and it is as well to remain reasonably near so as to prevent the youngsters getting themselves wet by sitting in the water. The next and subsequent feeds should be of bread soaked in milk, squeezed fairly dry and given in a crumbly state. Water in a shallow vessel must be kept constantly before the youngsters, with a plentiful supply of fine grit. After the first week the bread and milk may be discontinued and a mash, composed of biscuit meal and bran in equal parts scalded and dried off with Sussex ground oats, substituted.

Fattening for the market is, however, quite another matter, and the young ducklings destined to this end should be kept in small runs, and from the age of five weeks fed as often as they will eat on mash composed of scalded bran mixed with maize meal and barley meal. Drinking water must, of course, be always accessible, but ducklings intended for market

should never be allowed access to swimming water, and the less they get in the way of exercise the better.

They should be ready for market in from eight to ten weeks.

Aylesbury.—This, the giant of present-day ducks, is bred almost exclusively for exhibition. Tremendous size, breadth and depth, with whiteness of plumage, are its main features. Its laying powers are not sufficient to cause any strict utilitarian to fall desperately in love with it, and although its great size would seem to indicate table properties of a most satisfactory brand, the carcase carries a considerable amount of offal, and for this very reason the Aylesbury is not, in its pure state, looked upon with any particular favour by buyers for marketing purposes. In show-specimens immense size, tremendous keel, purity of plumage colour, and pinkness of bill, are the main points; the last-named being the most difficult to preserve.

Coaley Fawn.—The attention of utility duck keepers, during recent years, has been attracted in no small degree to this breed, originated by Miss Edwards a matter of a score or so years ago. Some excellent records and wins have been made by specimens of the Coaley Fawn at the Laying-Tests, and there is no doubt as to the breed's highly-developed egg-producing powers in combination with table properties of no mean degree. The colour of the drake is exceptionally pleasing, being a soft fawn with the exception of the head, stern and wing-bar, which are of chocolate hue. The duck lacks the darker markings but carries a dove-grey wing-bar.

Pekin.—Possessed of slightly better laying propensities than the Aylesbury, this again huge duck is

almost entirely bred for show purposes. In shape and size and colour it somewhat resembles the Aylesbury, but has not the depth of keel nor the whiteness of plumage. In addition, its bill is a rich yellow, as opposed to the delicate pink or flesh colour which is so important in the case of the Aylesbury.

Rouen.—Beautiful in all truth is this old French breed, resembling closely in colour and markings the English Mallard or Wild Duck. Under domestication, however, the stability of the markings and the richness of colouring have been enhanced, while size has been greatly increased, an exhibition drake often scaling ten or twelve pounds. The beauty of the drake is almost beyond description; the rich green head, the glistening neck with its collar of pure white, the claret-coloured breast, the greenish black tail, the brown wings with blue and white markings. The plumage of the duck is brown, pencilled with brown and black. It should be noted that during the summer the drake loses his wonderfully hued coat, donning the more sombre clothes of the female.*

Black East Indian.—Another of the old breeds, and of very disputed origin, the Black East Indian has never made any appeal to other than fanciers. Its smallness has to some extent led to its neglect. Its colour, too, is decidedly not a favourable factor, while its ability to fly, in which respect it almost reaches the proficiency of a wild duck, is distinctly a disadvantage.

Cayuga.—It is well-nigh impossible to conceive of

* This, amongst domestic fowls, is one of the few surviving instances of the loss that is so universal amongst male wild birds of the gorgeous colouring displayed in the courting season and the adoption of the comparatively drab plumage of the female during the summer or rearing months.

anything to surpass the extraordinary lustre of this really beautiful black duck. In size and shape resembling somewhat a small Aylesbury, it has, despite many and repeated testaments to its excellent laying properties, entirely failed to attract public attention, and even in the exhibition world is rarely seen except at the classic shows.

Crested.—Unquestionable as is the beauty of this old breed it makes little headway—more than one attempt has been made to secure for it the popularity it deserves, but each essay has ended in failure, definite and complete. Its essential characteristic is the large globular crest on the top of the head. The colours are many. An excellent layer and a splendid table fowl, one can only deplore the parochialism of the duck-loving public.

Indian Runner.—When the Aylesbury and the Pekin were in the heyday of their prosperity the Runner (as it is popularly called) was altogether unknown. Originated some score years ago, the breed, on account of its wonderful laying qualities and the smallness of its appetite, quickly earned the widespread attention of duck-breeders, and indeed led many poultry-keepers to take up ducks. The eggs are white and are but little removed in flavour from those of hens. Moreover, the Runner lays immeasurably better than the average hen. Small, the drake rarely exceeds five pounds in weight, slim and almost erect in carriage, the breed is strikingly unlike any other duck in creation. Its popularity as a show bird is only exceeded by the wideness of its appeal to utility breeders. The only drawback is its comparative uselessness as a table duck, but despite this obvious disadvantage the Runner is unquestionably one of the most eminently

profitable brands of waterfowl known to modern breeders.

Khaki-Campbell.—The aim of the originator, Mrs. Campbell, was evidently the production of a purely utility duck. The Indian Runner, the Rouen and the wild duck were apparently all drawn on in its production, and the result, as bred to a clearly defined standard, is an excellent layer of white eggs, possessed of supreme hardiness and prolificacy. Although of excellent flavour and certainly possessed of advantages over the miniature Runner, the Khaki-Campbell has small pretensions to fame as a table duck. The colour is khaki, with, in the case of the drake, bronze markings on the head, neck and wings. Eminently suited to the requirements of town and suburban duck-keepers, there is small room for question that as a purely utility breed the Khaki-Campbell has few rivals, and its growing popularity is only what such a claimant deserves. As a show bird little progress has been made.

Magpie.—Descended from a duck native to Western Wales, of considerable antiquity and bearing no particular name, this modern edition, known as the Magpie, immensely improved in looks and bred to some uniformity of shape, in its attractive black and white markings, has during recent years earned for itself a great reputation as a combined laying and table duck. It is making considerable headway, both in utility and exhibition circles, and is a breed which offers to the beginner much in the way of opportunity; its unbeaten utility qualities in combination with its striking appearance, being likely to bring this black and white duck to a position of much prominence in the world of waterfowl.

Orpington.—Again of comparatively modern manufacture, this duck in its various colours of buff, blue, black and chocolate (the former being by far the most popular), has gained something of a name as a general purpose breed. In size and shape it resembles somewhat a miniature Aylesbury.

Muscovy.—Unique amongst ducks in appearance and also in disposition is this striking breed. While the drake grows to a large size, frequently attaining eleven or twelve pounds, the duck rarely scales half his weight. Short-legged and heavily built, with long body and extending tail, the bird gives the appearance of power. The colour is usually white or a patch-work black and white. The head is surmounted by a feathery crest, the face is completely naked of feathers, the eye surrounded by an angry-looking patch of scarlet flesh. The whole appearance of the bird, and particularly of the drake, is indescribably vindictive, and his temper does not belie his looks, for besides being intensely quarrelsome with his own kind, he will attack with vigour and ferocity any bird he comes in contact with, or even, on occasion, children.

Penguin.—Originated during the last decade by much crossing of old-established breeds, this medium-sized duck seems, from the claims made in its favour, destined to become widely bred for utility purposes. In colour it is mainly black, the only relieving touch being the white throat and breast. The aim of the originator, Mr. H. W. Andreae, was to produce a breed combining laying powers with table properties, and in this, judging from the recorded performances of typical specimens, he has been eminently successful. Swimming water is unnecessary in the breeding of Penguins, which are hardy, stand confinement well,



15. MAGPIE DRAKE.

A noted winner.

Bred and exhibited by Ouse Manor Farms.

16. AYLESBURY DUCKS.

A flock of typical specimens.

Bred and exhibited by Mrs. Colbeck.

and mature and lay at an early age. As yet the breed is practically unknown on the show bench.

Ornamental Breeds.—Call ducks, at one time exhibited in England and still often seen at American shows, are best known to the public as the frequenters of lakes and ponds in public parks.

Mandarins and Carolinas are both small hooded ducks of Chinese and American origin respectively. They are remarkably and surpassingly beautiful. These and other purely ornamental breeds, such as the Spotted-Bill, the Paradise Duck and the Whistling Duck are only interesting from the point of view of their rareness and exceptional charm.

GEESE.

With the fall from grace of the goose as a feature of Christmas festivities and its complete eclipse by the turkey, the rearing of geese has fallen considerably into disfavour. Owing, however, to the small amount of trouble entailed in their management and rearing, and the slight expense in the matter of food, as given ample grass land they practically find their own food, it often pays to run a flock of geese. A shed for protection in case of excessively wet and stormy weather is all that is necessary in the way of housing accommodation ; there being not the slightest need to shut geese in at night. Indeed, in this connection, it is worthy of note that a flock of geese is worth its keep on a poultry farm as a form of guard. So great and so continuous is the clamour geese make if disturbed by anything in the nature of an intruder that they rarely fail to arouse anyone within reasonable ear-shot.

In mating for breeding it is not advisable to put more than two geese to a gander. Although geese live, lay and breed to a big age, they rarely produce any eggs until over twelve months old.

The time of incubation is thirty days, and the goose may be allowed to sit on the eggs herself, or they may be hatched under hens. The goslings for the first week or so should be confined in a wire run and fed with hard-boiled eggs mixed with bread-crumbs. Afterwards the same remarks apply as to the rearing of ducklings.

Embden.—This, one of the best known breeds of geese, attains a truly enormous size, many male specimens exceeding thirty pounds in weight. Of massive build, square-bodied, with erect carriage and snow-white plumage, the bird is of most impressive appearance.

Toulouse.—Huge as are the finest specimens of the Embden, according to the records of the specimens on exhibition at leading shows, the Toulouse has exceeded the best record credited to the Embden variety. Grey in colour, ranging in shade from light to dark, the Toulouse is slightly more popular than is the Embden. The delicacy known as *pâté-de-foie-gras* is made from the diseased livers of this breed of geese.

Chinese.—A much smaller goose, this, it is largely kept for ornamental purposes, but at the same time possesses some reputation as a layer. The usually kept variety is white, but it also exists in brown colouring. Its distinctive feature is a large knob at the base of the bill.

Egyptian.—Of small size, being little larger than a duck and somewhat high on leg, the breed is purely an ornamental one.

Canadian.—This, the wild goose of North America, is usually seen in public parks. Smaller and much longer in the leg than the European breeds, it would, if taken in hand by breeders, prove of considerable utility value.

Sebastopol.—Positively unique in appearance is this strangely feathered breed, which would appear to have originated in Germany and Southern Russia. Of medium size and usually pure white in plumage, the feathers in addition to being of a delicacy of texture almost analogous to those of the Silkie fowl are turned the wrong way as in the Frizzle. One occasionally sees specimens amongst flocks of farm geese, but it is hardly safe to assume that they are, except in a minority of cases, pure Sebastopols—in the vast majority of instances they are cross-breeds—this peculiar plumage being assertive and dominant to a very considerable degree.

TURKEYS.

Without climate, soil and environment very fully in one's favour the breeding and rearing of turkeys is in all truth a sorry business and one to be religiously avoided. A dry, sandy or gravel soil, a sheltered situation and abundance of space are essential to success. To even so much as attempt turkey rearing where the soil is heavy, clayey or boggy; where the runs are exposed to wind and rain; or where only a small area is available, is an absolute waste of time, money and energy. Damp is the great enemy of turkeys, both old and young, and it is for this reason that turkey-breeding in England has been in the main confined to the comparatively dry counties of Norfolk

and Cambridge, with intermittent attempts in other favourably situated spots of the country. Given a dry, sandy or gravel soil, and plenty of space, turkey-breeding will prove extremely profitable, the demand for youngsters at Christmas being usually in excess of the supply.

Beginners often make the mistake of breeding from young stock. No birds of less than two years old should be mated, one gobbler to three or four hens being the best mating. The time of incubation is twenty-eight days, and it is impossible to get a better sitter and mother than the turkey hen herself. For the first week the diet of the poults should consist of hard-boiled eggs chopped fine and mixed with finely-minced dandelion leaves and breadcrumbs. Later, biscuit meal, oatmeal and fine middlings may be used, but a plentiful supply of green food, of grit and of water are all essential. The young chicks, even until quite well grown, should not be allowed in long wet grass, nor indeed should they be liberated until the dew is off the herbage.

American Bronze.—This, the largest, most impressive and most strikingly beautiful of all turkeys, is as the name indicates a product of America. The adult cock ranges from thirty to forty pounds and the hens about half this weight. The colour is a coppery bronze, carrying an indescribable sheen and lustre. A male turkey in the full panoply of plumage attained with his full maturity is in truth a magnificent and compelling spectacle.

White Turkey.—Much smaller than the Bronze, this variety has grown considerably in popularity. It is reputed to be comparatively hardy and for market purposes its medium size is distinctly in its favour.

The price of turkey flesh is not such as to cause a heavy demand for specimens of elephantine proportions.

GUINEA FOWL.

Possessed of the smallest appeal to the utilitarian, the breeding of this peculiar bird is confined to genuine lovers of the beautiful or bizarre in fowl creation, or it is frankly kept for purely decorative purposes. For sheer undeniable beauty its plumage, amongst the ranks of domestic fowls, would be hard to excel; its delicate grey ground colour, white-spotted with almost mathematical precision and regularity. Although nothing to shout about as a layer, the eggs are of exquisite delicacy, and it is pretty certain that the Guinea Fowl would not be the comparative rarity it is, even where ornamental fowls are kept, but for its objectionable habits. For one thing, it has a shrill, screechy voice of its own, which it exercises with vast industry, to the utter dismay and disgust of most persons, and the fact that as a giver of warning during the night it has the best watch-dog and even a flock of geese completely and devastatingly beaten does not seem to equiponderate the drawback associated with its daytime caterwauling. In addition, it is pugnacious to a degree; it strays on discovery bent with disconcerting thoroughness; it lays anywhere or everywhere, and will drive away or kill any other living creature over which it can gain physical mastery. Strictly monogamous in its natural haunts, a cock bird can, under domestication, safely and even advantageously be given two females.

Pea Fowl.*—With never a rival and never a peer in the matter of gorgeousness of feathers and proudness of carriage, the Peacock, magnificently crested and resplendently tailed, is of all fowls, wild or domesticated, known to these Islands, the most rare and the most admired. Apart from its beauty, the bird has little to commend it. It screams mightily at frequent intervals, it positively bursts with vanity, it requires abundance of room, and is rarely satisfied with a home that is anything less than a whole estate ; it is spiteful and vicious with other poultry, and on occasion will attack children with splenetic vigour.

* It is interesting to note that the Java Peafowl (*Pavo Muticus*) is one of the rare instances in bird life where the female possesses spurs.

CHAPTER VII

THE ART OF EXHIBITING

No one, whether interested in poultry or not, who has visited a show can have failed to be greatly impressed with the wonderful lustre of the plumage and perfect physical fitness of the fowls on view. Beautifully impressive is the pristine snowiness of the white varieties, the coral-like redness of the Hamburgs' combs, the superb condition of all. Few, however, of the ordinary onlookers have the remotest conception of the hours of labour, the incessant and long-continued attention, the extraordinary skill and unlimited patience that have gone to the attaining of these results.

Preparation for show is not merely a matter of half an hour's attention before the event; it starts weeks and in some cases months before the bird is actually shown; the conditions of correct poise, docility, and perfection of feather are the culmination of a long period of unceasing care and unremitting attention.

Now breeds, and even the several varieties of one breed, vary enormously in this matter of preparation, and while it may be stated as an axiom that the young bird does not live whose plumage is not adversely affected by exposure to sun, wind and rain, the plumage of some varieties owing to the delicacy of its colour and texture is far more susceptible to the damaging, disturbing and disintegrating influence of the elements.

In this particular there are in the whole farrago of breeds and varieties none so susceptible to the influence of atmospheric conditions as are white varieties. In consequence, the moment the youngsters begin to don their final suits of clothes it is essential that they should have adequate protection, not only from rain, but just as surely from sun. The provision of shade is therefore essential. This is, of course, best provided by the runs being built in an orchard, but in cases where natural shade is impossible or insufficient, the birds should be confined within the precincts of a roomy shed during the hours when the sun is warming the local earth.

In the case of buff and red varieties adequate protection is similarly essential; while even black, laced and pencilled fowls require almost as much care if their plumage is to reach and to retain its full beauty.

On a large establishment it is of course plainly impossible to give to each bird meticulous care and detailed attention, and in consequence the most promising youngsters are selected at an early age and given the best and most favourably situated pens where special and exhaustive care can be bestowed upon them.

This extra attention neither begins nor ends at the mere matter, important as it is, of protection from the coarsening effects of exposure. It includes the giving of special and extra food, and the constant examination with a view to diagnosing and remedying any slight ailment or the correction of any minor defects.

So much for the vitally important general care of birds intended for show. The individual and final preparation of one or more birds for any particular exhibition is entirely another and vastly different

affair. Having selected a bird for exhibition it must be confined in a wire training-pen some seven to ten days immediately preceding the date of the show. An orthodox show pen such as is in regular use at all poultry exhibitions does very well, but many exhibitors have for this matter of individual preparation a rather larger type of pen constructed of wood with a wire front. But whatever kind of training-pen is used, it must be fixed up on a bench at a height of some three feet from the floor, in a roomy outbuilding or shed free from draughts, with sufficient light and adequate ventilation.

It is of course essential that an exhibition bird should be docile and tractable in the show pen, so as to show itself off before the judge to the very best possible advantage. One that crouches in a corner, or makes wild and frantic efforts to escape through the wire caging to the detriment of its carefully groomed plumage, stands a mighty small chance of impressing the judge. Indeed the odds are that the judge being intensely human will pass on and give that particular exhibit remarkably little in the way of further attention. Not only do different breeds vary extraordinarily in temperament, but to individual specimens, in a somewhat lesser degree, does this variation also apply ; and while there are birds which will show themselves off by coming to the front of the pen without anything in the way of training, most require at least a week's steady acquaintance with the interior of a training-pen before their docility can be sufficiently counted upon. Even longer confinement and frequent handling, caressing and stroking of the plumage may be necessary with breeds of a wild nature, such as Leghorns, Minorcas, Campines, Anconas and others of similar

build and temperament. Indeed it is very advisable that specimens of these breeds should be accustomed to handling from a comparatively early age.

All fowls of white, buff, and partially white or light coloured plumage require washing; a task, this, which the average novice approaches with considerable misgivings. Certainly it is not an operation that can be correctly described as simple. Indeed many an amateur on surveying the result of his handicraft in this particular line, has been driven to helpless profanity. It is well to use for an experimental wash a bird which is of no particular value. Preparations of the most complete order should be made first of all. The apparatus required are three wide-mouthed vessels of a size sufficient for the comfortable immersion of the bird to be washed, a packet of "Lux," a little powder blue, a plentiful supply of hot water, a few towels and a good healthy fire. In front of, but not too near, the fire, one or more empty wire training-pens, according to the number of birds to be washed, should be erected.

If at all possible it is well to have some slight assistance at this stage. A boy or girl will suffice. Warm water, preferably rain-water, but at any rate soft water, of a temperature that the human hand can tolerate, should be poured into the first vessel to half its depth and a soapy lather worked up with "Lux" or other non-alkaline soap. A tablespoonful of ammonia is a valuable addition, particularly if the bird to be washed is unusually dirty. Into this ablutionary solution immerse the body and lower parts of the bird wholesale, taking care to keep the head out, and rub with vigour and thoroughness every portion of the plumage, taking especial care not to break any flight

or wing feathers, and to rub always the way the feathers lie. The aid of a small brush and an extra application of soap may be necessary in spots, particularly in the case of the large feathers of the wing and the tail sickles. Having satisfied yourself that every particle of dirt or grime has been thoroughly removed from every section of the plumage, including the head, which must be washed without actual immersion, the next and more difficult process is to remove every atom of the soap which has been rubbed in with such fine industry. For this the second bathing vessel is required, and in this your assistant will have prepared another lot of water, not so hot as the first bath, but sufficiently warm to be comfortable for the dripping bird. Thorough indeed must be the washing in this second water, it being essential, if the whole thing is to be anything in the nature of a success, that not a particle of soapy matter be left in the plumage. The natural webbing of the feathers as they dry is absolutely dependent on this thorough removal. The third bowl again is destined for rinsing water, this time of a still lower temperature, lukewarm being the most favoured. Now in the case of pure white varieties it is usual to include a certain amount of blueing in this final rinsing water, but expert opinion is not unanimous on the matter, and really it depends altogether on the quality of the whiteness of the fowl. Some shades of white are better for the blueing, others are certainly better without it, and only personal experience can enable the exhibitor to decide the point. But if blue is added to the water it should only be the remotest tint—it is remarkably easy to overdo the whole thing and a sorry picture of a bird is the result. The washing completed, as much of the

surplus moisture as possible should be removed by gently rubbing with the towels previously warmed by your ready assistant. This done, the bird may be placed in front of a warm fire in the wire training-pen, but not near enough to scorch the feathers. For anyone who has money to throw away there are elaborate drying pens to be purchased ; but for all the purposes of the average amateur exhibitor drying in front of the kitchen fire will answer most satisfactorily.

Now this washing should take place at least three days before the time for despatch to the show—it is not advisable to do it earlier and risk the bird getting dirty, or later with an equality of risk that it will not be thoroughly dry.

Before despatch, and this applies to every breed in creation, the head, comb and legs must be well-washed with soap and water—the legs and feet may require considerable attention before all the accumulated dirt is successfully removed from beneath the overlapping scales.

The plumage is improved in the matter of finish by the brisk and continued rubbing with a piece of soft silk, taking care, of course, only to rub the way of the feather.

This done, and the bird satisfied with what it can eat in the way of grain, it only remains to pack in a suitably-sized lined show hamper, duly ticketed with the label provided for the purpose, and despatch from the local station in comfortable but not excessive time to arrive at the show on the appointed day.

In the successful exhibition of poultry, however, there is, in addition to the ownership of pretty nearly perfect specimens and the showing of these specimens

in the acme of condition, the need for a very thorough knowledge of the idiosyncrasies of individual judges.

In another part of this book the art of the judge has been very thoroughly considered, and it has been pointed out that one of the main qualifications of a judge is or should be the ability to bury his prejudices. Now it is not given to many to be able to come anywhere near the successful accomplishment of this. And it may be taken as a sure and certain thing that the majority of judges look with undue favour upon certain points in the standard, and view with illogical unreasonableness certain defects.

It is entirely useless for any exhibitor—tyro or old hand—to take upon himself the task of attempting to educate the judge. No grown man likes to think that he is being told his business. A sufficiently thankless task has been carried out by the judge to the best of his particular ability and naturally enough, big and important in his own opinion at any rate, he views with considerable distaste any adverse criticism that exhibitors may be inconsiderate enough to throw about. The wise exhibitor takes his defeat, to all outward appearance, with tremendous stoicism, and whatever may be his inward state, congratulates the judge on the fairness and skill of the awards, treats his own particular non-success with airy nonchalance, and generally speaking leaves the judge with the impression of having met a first-rate example of the genuine English sportsman—that euphuistic term apparently given to anyone who in a moment of utter defeat can sufficiently cover up his real feelings. In addition, the Solomon-like fancier will spend a couple of hours in careful study of the type of bird that this particular judge favours as evidenced by the

prize-decorated pens, and the type he has no manner of use for as evidenced by the blanks ; and the valuable data thus afforded, in addition to any further information he may get from the judge himself directly or indirectly as to his particular likes and dislikes, will with vast care be stored in his mind for future reference. Admirable in all truth this plan, and, carried out in the case of each judge, provides the exhibitor with a mass of information of inestimable value. As a result he knows precisely what brand of hen to send to this judge and to that, and is in an infinitely better position to show and win than is a brother exhibitor not in possession of this information.

It may be argued that such a state of affairs is wholly and entirely wrong, that the same bird should win under one judge as does under another. In strict and literal truth such a contention is incontestably right, but unfortunately we have to deal with an imperfect world and with yet more imperfect men. And until the whole structure falls in crumbling ruins, which will be the precise length of time that these imperfections will continue, it will be plainly useless to expect so elastically worded a thing as a standard of perfection to be interpreted on strictly parallel lines (apart altogether from the big and ugly hoof of personal bias) by innumerable readers.

In concluding this chapter I am giving a number of practices in current use amongst exhibitors.

Exhibitors of large-combed birds such as Minorcas and Leghorns, where there is a tendency for this unnaturally developed comb to fall over, besides massaging the member and bathing it with vinegar, bring into prominent play a device known as a comb-guard. This is a piece of wire, bent in the shape of the comb,

and in such a fashion as to hold it perfectly upright—the guard is left on the bird's head until the moment of despatch to the show, and in some cases until released from the basket.

White ear-lobes require constant attention, owing to their liability to blistering and roughening. Zinc ointment is frequently rubbed in and Talcum powder is also in constant use. In red-lobed breeds a solution of citric acid and water or vinegar and water is used to brighten the colour.

For adding lustre to the plumage there is nothing to beat sunflower seeds and linseed. A small quantity of one or the other should be fed daily for a fortnight before the show.

Rubbing the plumage briskly with a piece of soft silk on which a few drops of parafin oil have been sprinkled will give a final and an additional lustre.

For getting birds into the pink of show condition bread soaked in milk is unbeatable.

The richness of leg colour, so important in yellow-legged breeds, can be retained by frequent greasing with olive oil or vaseline.

CHAPTER VIII

ADVERTISING AND SELLING

It is only necessary to turn up the back files of any one of the poultry journals to realize how enormous has been the advance in advertising during the past decade. I am not referring so much to sheer mass of matter, for this is partially explained by the vast increase in the number of poultry-keepers and in the development of new branches of the business, as to the advance, decided, definite and well-nigh staggering in the art of advertising. Similarly a glance at one of the monthly poultry magazines which exist in such profuse numbers in the United States will reveal in all the bigness of its truth how very much leeway there is yet to make up before the art of publicity as we poultry-breeders of England know it, can so much as approach the wonderfully high standard already attained by the Americans.

There was a time, and it is not so very long ago if it comes to that, when the average poultry-keeper considered that a bare announcement of stock for sale and the address of the owner were in all truth sufficient to draw the attention and attract the custom of any possible buyer. He would as soon have thought, if indeed he could have understood their meaning, of attractive wording, exhaustive description, compelling setting, as of visits to the North Pole ; he would have very nearly had a fit at the merest mention of photographic advertising.

But the old belief that a good thing will sell itself with many another obsolete idea such as the confirmed belief in the efficiency of improving the burning of a fire by laying the poker across it, have to a very large extent been thrown aside like a discarded garment. That these and even far more nonsensical beliefs and ideas survive and flourish is undeniable, but the cherished illusions of the grossly ignorant need not seriously concern us.

It will be abundantly manifest that it is the smallest use even so much as thinking of the uses and value of publicity until one has a quantity of goods to sell. For which reason this matter of advertising need not seriously concern the beginner or amateur, who, after all can sell locally the essentially limited quantity of stock he has for disposal, possibly without recourse to newspaper advertisements at all, or at most by means of a small and inexpensive announcement in the local press. It is the poultry-breeder whose surplus stock runs into hundreds, and who, in order to sell at remunerative prices, must look to a less circumscribed area for its marketing, that this chapter is primarily designed to appeal.

It will be well at this stage to impress upon the novice that the real aim of an ordinary commercial advertisement is not so much the actual realization of a direct sale through a specific announcement (often as this is done) as to attract an enquiry. It must be remembered that advertising space, in any paper that is worth so much as a row of pins as a publicity agent, is vastly expensive; and, in consequence, the attempt to detail with elaboration and conviction any considerable array of goods for sale is, in the majority of instances, on the ground of sheer

expense, plainly impracticable. It is, therefore, far better to leave the trotting out of evidence, confirmation and the like to the medium of the postal service after an initial enquiry has been secured. On the other hand, an advertiser must not take too much for granted by erring on the side of brevity of statement. It is superbly useless to content oneself with the bare and uninviting announcement of "Blank's Green Orpingtons," if no one has previously heard either of Blank or of his Orpingtons, green or otherwise.

The primary essential is, of course, attractiveness. One must ever bear prominently in mind in these feverish days the man who will sit down and plod carefully and methodically through every column and every page of a publication is, in the main, as extinct as the dodo. In direct opposition to this he scans rather than reads, and on a page positively bristling with advertisements, it is the most striking that catches the scanner's eye. But mere attraction, though the most vital condition, is by no manner of means all. If the advertisement does not, in addition to attracting, hold the attention, it is plainly useless. The reader's interest must be stimulated and this stimulation must moreover be done with a modicum of words. In this respect, however, it is very easy to overdo the whole thing, for while long small-typed advertisements are rarely read and tolerably useless, an announcement limited to a bare two or three words, while it may be wondrously effective in the case of soap or pills, is of little use to the poultry advertiser.

Relative size of type is of some importance. In the case of a well-known and famous breeder his name should sprawl in big black letters across the space paid for, whereas if the breeder is comparatively unknown,

the wins of the birds, their special characteristics, or some exceptional bargain offer, should do the sprawling.

Money spent on advertising must be in relation to the amount of stock one has for disposal. It is absurd for anyone with a matter of a hundred pounds' worth of birds for sale to spend fifty pounds in the advertising of it. It is better to distribute the money available on a medium-sized advertisement in six or eight issues than to spend the whole sum on one big flaring announcement. A systematic and continuous scheme of publicity, as far as it is possible, is in every way infinitely preferable to spasmodic advertising. Obviously a lot depends on the extent of the campaign, but generally speaking it is advisable to stick to one or two leading poultry publications. The specious pleas put forward by obscure journals as to the merits of their advertising columns; the offers of a free advertisement on condition that a subscription is given to a journal you have never seen on a bookstall, should find a resting place in the nearest fire.

Now, in these days of razor-edged competition, unless one wishes to pay for the mere privilege of seeing one's name set up in type, it is entirely useless to seriously start the expensive game of advertising without there are for the printing certain specific qualifications on the part of the birds or their owner beyond and in addition to the elementary facts that they are eminently respectable specimens of the breed they represent and that the owner is desirous of finding for them fresh homes.

The public, in the fulness of its wisdom, has decreed that the virtues of a breeder's stock and its consequent value, are entirely dependent on the list of prizes

annexed, at the shows in the case of exhibition birds, and at laying competitions in the case of utility birds, which he can flourish for all to see and envy. The winner of cups and prizes at the Dairy, the Palace and Olympia stands on the highest rung of the ladder ; and, in consequence, can charge and secure prices that make the backyard poultry-keeper hold up both hands in extravagant awe. Lower down the ladder is the breeder whose birds have got into the money at provincial shows, while struggling at the foot is the one who has failed to climb beyond the limits of localized village competition. The value of the birds that each class of breeder has to offer falls correspondingly, and not only does this apply to the actual winning specimens themselves, which owing to their decidedly restricted number would not matter so much, but it coincidentally applies to every solitary specimen that each particular breeder wishes to sell.

Manifestly, therefore, is the immense significance of having a list of prizes to put before the buying public as testimonials to the merits of the breeder's wares.

It is useless, unless one can be content with prices little in advance of the cost of production, to advertize until one has secured some share of the prizes that are going. But once the wins are secured, the drum-banging should commence forthwith ; it is not a bit of use relying upon the wins themselves unshouted and unsung ; they must be blazoned forth from the housetops. It is a matter calling for much judgment, this making the most effective use of the prizes, resulting from the expenditure of considerable cost and effort. The novice, in the immense majority of instances, fails most miserably. In the first and ex-

cusable extravagant flush of victory he is apt to magnify what are in reality minor honours into glorious triumphs, and proceeds to smear his prize list with the trumpery mentions received at every tinpot show ; whereas the wise advertiser will eschew studiously and rigorously the merest mention of every prize lower than the premier award gained at any show of an ordinary as opposed to a classic stature. It matters not so much how insignificant the show, how meagre the actual prize, how few the entries ; if the award is a first, include it. The average buyer concludes, naturally enough, that the winning of minor prizes and honour cards is a plain indication of inferiority, and in consequence he looks further until his eye rests on the advertisement of someone whose record includes no such damaging results, but presents an unbroken and irrefragable array of premier awards.

Subservient to newspaper advertising, but equally necessary in the case of a business of any size, is the issue of a price list or catalogue. This usually takes the form of a mating list issued at the beginning of the year and containing details of the various mated breeding pens, with prices of eggs for hatching and day-old chicks. The compilation of a really attention-compelling and business-pulling catalogue is not every man's job, and the breeder who is unfitted for the task had much better put the whole matter into competent hands.

There are other branches of the art of publicity, and in the stress of modern competition no legitimate method should be overlooked. Every opportunity of getting one's name before the public should be capably grasped. The beginner has a name to make and nothing that will help towards the making of that name

is too small to be given diligent attention. Letters to the Press will do much to this end. It does not matter so much what they are about so long as they bear the writer's name, and if the beginner can manage to inveigle a prominent breeder into a controversy on some point or other, it will pay him well to do so; for whatever the outcome the novice is bound to benefit. Little paragraphs about the farm, the birds, himself, and occasionally illustrations, all help the tyro, and it is not in any way difficult to get these inserted.

In the world of poultry, as in any other walk in life, it is absurdly useless to sit quietly at home and wait for the public to recognize one's existence. The man who, in the popular phraseology of the day, "gets there" is the one who diligently shouts his virtues from the tower top, gets himself talked about, dins the merits of his stock into every available ear, bangs the big drum, Sunday and week-day alike. At no time in the world's history was a man more thoroughly taken at his own particular valuation than he is to-day.

With regard to the actual selling of birds, it is the eneral rule of the poultry business that the buyer remits the full amount of the purchase price, and that, in the event of the goods not meeting with his approval, he returns them within forty-eight hours, when his money will be refunded, less the amount paid for the carriage of the birds.

The novice will be well advised to refuse to part with his birds until he receives the purchase price. The only safe alternative is for the amount to be deposited with the editor of one of the poultry journals, pending the approval or rejection of the birds. Every possible effort should be made to please and satisfy a client. It is only by giving full value for money that

repeat orders can be expected. No bird that departs ever so slightly from being in health or that is not in the pink of condition should ever be sent out. The plumage requires the most careful grooming, the head, legs and feet a thorough washing, and in case of white or delicately coloured varieties the plumage itself will be immensely the better for washing before despatch.

Baskets, for any but the cheapest birds, are the best receptacles for the birds during the journey. Apart from their lightness and consequent advantageousness in the matter of railway charges (a not-to-be-ignored item), the purchaser is tremendously more impressed by the arrival of his eagerly-looked-for bird in a neat-looking basket than he would be with the same bird ejected from an old sugar-box. First impressions, both as regards the bird and its manner of arrival, are of tremendous importance in the selling of stock to amateurs whose real knowledge of what they are buying is of a microscopic brand.

The exportation of poultry is, to the amateur at the job, an affair of much difficulty and is usually approached with tentative hesitancy. In reality, once the ordinary routine is mastered, the matter is simple enough.

It may be well to give as a start a little general advice as to the making of a quotation to a foreign client. Presumably anyone contemplating the importation of poultry requires only first-class specimens, and whether or not the enquirer makes this stipulation it should be taken for granted, and a quotation given for typical high-class representatives of the breed in question. It is better to do without the order than to quote for cheap birds, for whatever the price, the importer is looking, naturally, for something a good

deal better than anything existent in his own particular country, and whether or not in the event of satisfaction he gives you a gratuitous advertisement, you can be tolerably sure, if the birds fail to please him, that he will make known their origin to all who care to enquire.

In giving a quotation it is well to stipulate with exactive care and definiteness whether or not freight is included. Indeed it is best, in every case, to quote an inclusive price for delivery at the importer's nearest port (the exact cost of freightage can be ascertained from any shipping agent) and an alternative price F.O.B. (delivered on board steamer). In making this latter quotation it should be remembered that food and a coop must be provided, and also carriage will have to be paid to the nearest English port. Where carriage is collectable by the shipping agent at the port of arrival, the sender is required to sign an agreement that he will be responsible for the freight should any difficulty arise at the other end.

In the case of exportation to the more get-at-able continental countries, where the journey is only a matter of hours, the birds can be sent in an ordinary basket or crate, a water-soaked loaf of bread and the half of a turnip being fastened to the sides of the receptacle.

For longer journeys a coop is essential. This need not be an elaborate or expensive affair, indeed the lighter in construction it is the better, provided it is strong enough to stand the by no means gentle handling it is likely to receive at the docks. The best size is two feet high and two feet deep, the length depending on the number of birds in the consignment. For a solitary specimen, or for a couple of hens, two feet

in length is enough ; for three birds, on a long journey, three feet is not too much to allow—it is not advisable to ship more than three females in one compartment. In every case each male bird should have a separate compartment, if the birds are to be worthy of inspection on arrival.

The front of the coop is best made of wire-netting or wire bars, with a separate door for each compartment ; and attached to the front are the food and water vessels, convenience of access being essential. The food, which of course varies in quantity according to the number of birds and the duration of the voyage, should be a mixture of wheat, oats and maize, with a generous admixture of grit and shell ; it must be put in a sack and sent with the birds, labelled “ Food for use on voyage.”

The duty of looking after fowls usually falls on the ship's butcher, and he expects to be suitably rewarded for his pains. The shipping agent usually sees to this and includes the gratuity (as it is called) in his bill of charges. Where the exporter prefers to deal direct with the shipping company, a letter to the ship's butcher enclosing ten shillings in the case of a small consignment and one pound where a larger one is concerned is the usual course. In the case of novices at the game of exporting it is very advisable to carry out the transaction through an agent.

CHAPTER IX

DISEASES : THEIR PREVENTION AND TREATMENT

THE number of diseases to which domestic fowls are liable is a considerable one ; and as in the case of every kind of animal or bird kept in an unnatural state of environment, reared and sustained on artificial foods, bred in accordance with man's idea of selection, this array of pathological disorders, in its numerosity no less than in its scope, becomes an ever-increasing one.

Without repeating the arguments in favour of the well-worn and obviously true copy-book platitude connected with prevention and cure, it is advisable, before going into the treatment of specific diseases, to give a few cautionary words of advice, and to detail some preventions methods, the careful observance of which will do a good deal to obviate anything in the nature of a serious outbreak of disease.

Apart from hereditary disease, which may through the purchase of breeding stock be introduced into any strain, contagious or infectious disease which again may be brought by purchased birds or by one's own birds on their return from a show, disease is directly or indirectly the result of exposure to damaging atmospheric or climatic conditions, filthy environment or unsuitable methods of feeding.

Reverting to the matter of hereditary disease, which as regards poultry is practically confined to the

one dread and incurable disorder, tuberculosis, the greatest care should be observed before purchasing stock birds of another strain. A personal inspection of the breeder's stock is advisable. A few birds sent on approval tell nothing, as there is always, even where the malady is strongly present in a strain, a certain percentage of the young birds which offer no outward indication to guide the observer. But an inspection of the whole of a breeder's stock will quickly reveal the truth to a poultry keeper of any experience.

The risk of the transference of contagious or infectious disease is even greater. Roup, although presenting no insuperable difficulties in the way of cure, is very commonly carried from one flock to another; diptheria, usually resulting in death, is another frequently transmitted disease; while the terrible skin disease popularly known as white comb, in its virulence and its unsightliness, is feared by every poultry-breeder.

The advisability of having a special house for use as a quarantine station will be apparent, and while this is only applicable to large poultry farms where the purchase of fresh stock is often necessary, no poultry-keeper should neglect to isolate any new purchase for a week in order to ensure that no disease is carried to the other fowls.

The ability to quickly diagnose disease is a very material advantage. With this end in view the symptoms of each disorder, in, at any rate, their outward manifestations, should be diligently studied. At feeding time in particular the birds should be carefully observed. A hen or a cock that evinces no marked inclination to secure at least a very accurate share of whatever happens to be going, becomes an object of

suspicion. Then and there it should be run down, caught and given a thorough examination.

Purple combs, full crops in the morning, dull plumage, lifeless expression, all tell to the practised eye the plainest of plain tales. At least once a week, the birds should be handled after they have gone to roost, when the job can be got through quickly, and with a minimum of screaming, flying and flustering. Any birds of excessive fatness, or with razor-like breast-bones, can be removed for treatment. The early diagnosis of disease or of even simple ailments, is vital if anything worth calling a cure is to be effected.

Now just as there is a not inconsiderable number of men and women who are everlastingly pouring into their stomachs medicines and drugs of every brand, from the cheap quack remedies with which the country is flooded to the prescriptions of amateur doctors, so are there tens of thousands of poultry-keepers who have got it into their heads that the most ordinary hen cannot live the most ordinary life without having her constitution fortified continuously by means of systematic dosing with evil-tasting drugs. And with this precise and confirmed idea in big view they resolutely proceed to poison the fowls' drinking water and to nauseate every morsel of their food much in the way that old Squeers dosed his adopted brood. It has often been my lot on visiting a poultry farm to observe every drop of drinking water red with permanganate of potassium, and every morsel of food reeking of aniseed.

All this is plainly unnecessary. A dose of Epsom salts once a fortnight, allowing a teaspoonful of the salts to each four adult fowls, may be advisable during

the summer months. To ensure its equal distribution the salts should be dissolved in the water used for mixing the soft food.

In cold, damp weather and during the moult a twice weekly dose of tonic-powder is useful. The following is a well-tried and most satisfactory mixture : equal parts by weight of aniseed, iron carbonate, fenugreek, ginger, liquorice and mustard, thoroughly mixed, and given in the soft feed in the proportion of one level teaspoonful to each ten adult fowls.

Beyond these intermittent dosings, the use of drugs in anything approaching what may be termed promiscuosness is not only inadvisable, but manifestly harmful. One can render one's fowls veritable slaves to salts and stimulants, just as not a few men and women make themeelves slaves to purging pills and cooling powders.

Apoplexy.—The symptoms are usually the walking or running of the bird unsteadily, crazily and without any apparent objective. Keeping perfectly quiet and the administration of a one-grain quinine pill and a quarter teaspoonful of Epsom salts in a tablespoonful of water daily are the best remedial methods, but the hope of any permanent cure is slight. In many instances a bird seized with an apoplectic fit is found dead in the run, and any nursing trouble is avoided.

Broken limbs.—The setting of a broken leg is not outside the capacity of an amateur surgeon. The shank should be worked into its natural position and fixed with splints of thin flat wood, or failing this, carefully and not too tightly bound with strips of cotton or linen soaked in the white of an egg. It is useless to attempt the mending of any breakage of a more serious nature

Bronchitis.—Usually brought on through undue exposure to damp and cold, the disease is characterized by wheezing and rattling in the throat, and, in the case of a male bird, a difficulty in crowing. Mix glycerine and whiskey in equal parts and give one teaspoonful each night. Feed mainly on soft food, to which a little ginger is added.

Bumble foot.—A swelling of the foot, which sometimes assumes large dimensions. It may be confined to the ball of the foot or extend between the toes and even to the leg proper. It is often brought about through an injury caused by jumping from a high perch, and is prevalent amongst birds kept on rough land. The swelling should be painted with tincture of iodine. If this is ineffectual it will be necessary to make an incision and remove the contents, afterwards washing the aperture with warm water, in which a few crystals of permanganate of potassium have been dissolved. The foot should then be bandaged to prevent dirt getting into the open wound, and the bird isolated for a few days. If after a week any further matter has formed the process should be repeated. The cure of bumble foot, beyond some trouble and patience, is not a matter of much difficulty.

Canker.—See Diptheretic Roup.

Cholera.—Symptomized by extreme listlessness, the affected bird moping in a corner the picture of misery, the excrement is thin and watery, at first green, then becoming white. No attempt to cure the disease is advisable. The bird or birds affected should be killed, and destroyed by burning at once, and as cholera is contagious to a degree, every effort should be made to stop it becoming anything in the nature of an epidemic. The houses in which any sufferers have been

roosting should be thoroughly disinfected, and potassium permanganate given in the drinking water.

Colds.—During cold, damp and foggy weather, both old and young birds frequently contract colds, which may be easily recognized by running at the nostrils, rattling in the throat and sneezing. The removal to a warm and comfortable outhouse and a course of pills (see Roup) will usually effect a speedy cure. Where rattling in the throat is present a teaspoonful of glycerine and whiskey mixed in equal parts night and morning is beneficial. In cases where a number of birds are affected, as often happens with a flock of young birds in summer, the most effective and convenient treatment is to give roup powder in the soft food (for formula see Roup).

Consumption.—See Tuberculosis.

Cramp.—In adult birds the cause is usually running on damp or wet land. The best treatment is to take the sufferer indoors for a few days, keeping it confined in a coop bedded with dry hay, this in itself will sometimes effect a cure, but in addition it is advisable to hold the legs in warm water for five minutes, two or three times a day, and, after drying, rub with a mixture of turpentine and spirits of camphor. Cramp is, however, most common amongst young chickens, and is caused as often as not by damp sleeping quarters, the toes of the youngsters in many cases doubling under. In older birds the usual symptoms are crooked and deformed toes and tendency to squat on the shanks. It must not, however, be confounded with leg-weakness. In the case of youngsters, beyond the removal to drier ground and the provision of comfortable sleeping quarters, nothing more can be done in the way of bringing about a cure.

Crop-binding.—This distention of the crop, through the failure of the food to pursue its allotted course, is the result of the outlet into the stomach being blocked. Where the cause is simply through the bird gorging itself with hard grain after a period of abstinence a cure is easily effected by pouring warm water into the crop until well filled and kneading the crop with the hands for some time until the contents feel pliable and loose. Then hold the bird by the legs head downwards, continuing the kneading and squeezing process until the contents have been ejected from the mouth. Give a teaspoonful of olive oil and place in a coop. If the crop is not thoroughly empty next morning repeat the process.

It often happens, however, that the crop is filled with hay, straw, or other similar matter, and in such cases the kneading business may fail to affect a cure. An operation offers the only chance of recovery. For this it is well to have someone to hold the bird firmly with the breast and crop uppermost. A few feathers should be gently plucked away from the region of the crop and with a razor or sharp knife an incision made in the crop about an inch or so long. Great care should be taken to avoid the veins and consequent bleeding. Through the opening the contents of the crop must be removed with the aid of a teaspoon or anything else that is suitable. Not a particle of food or other substance must be left in the crop, and it is well to insert the finger and feel very carefully to ensure the outlet into the stomach being clear of anything in the nature of an impediment. This satisfactorily accomplished, rinse thoroughly with warm water containing potassium permanganate. The incision must now be sewn up. If a surgical

needle is not available, any fine steel needle must suffice. Fine silk thread is best for the purpose, and the gaping sides of the crop, taking care to separate this from the outer skin, should be drawn together with four or five separate stitches. The same must be done in the case of the outer skin. No water should be given for two or three days, nor any hard grain, bread and milk being the most suitable diet during convalescence.

Diarrhoea.—This disorder is neither serious nor uncommon, is usually caused by a sudden change of diet or even of climate or environment, show specimens, owing to much travelling and irregular meals, being very prone to it. Boiled rice, sprinkled with powdered chalk, will usually effect a cure quickly; a one-grain quinine pill may be given daily with advantage.

Diphtheric Roup.—This, without doubt, one of the most deadly diseases to which poultry flesh is addicted, is most troublesome to cure, and owing to its contagious nature, coupled with the fact that it may have developed considerably before any symptoms are noticed, not infrequently spreads through the whole of the birds. The symptoms are growths in the mouth and throat of a creamy-white or yellowish substance of the consistence of cheese, which is characterised by a markedly offensive odour. If a cure is to be effected it is highly important that the disease should be correctly diagnosed and treated in its early stages. If once these cheese-like growths extend down the throat and reach the internal organs any idea of a cure is hopeless.

The first steps are the immediate isolation of every bird having the affection even in the mildest of forms,

and the thorough disinfection of the houses on every part of the farm.

They should be sprayed throughout with a strong solution of carbolic acid, Jeyes' Fluid, Izal or other reliable germicide.

The affected birds should be given Roup cure, made to the following recipe :

Potassium permanganate	..	1 ounce.
Sulphate of copper		1 ounce.
Epsom salts		2 ounces.
Alum		1 ounce.

Reduce these ingredients to powder form, mix thoroughly, and dissolve one teaspoonful in a gallon of drinking water, allowing no other water to drink. Metal vessels should not be used for this solution owing to the chemical action which would result. Remove carefully all cheese-like growths, painting the sores with hydrogen peroxide.

Egg-binding.—The serious results which follow this condition, which virtually is inability on the part of the hen to free herself of an egg, are in the main due to the fact that it is rarely noticed, the bird is in a palpable state of severe distress, and, often enough, the egg passage itself may be protruding.

The cause may be the unusual size of the egg, some abnormality of shape or the excessively fat condition of the hen.

The moment the bird is noticed she should be caught without any fuss or commotion, which would lead to breakage of the egg. If the egg passage is protruding it should first of all be pushed gently back into its normal position. Hold the bird head downwards, dip the forefinger in olive oil and carefully grease

the whole of the vent, passing the finger gently inwards, and not sparing the oil in the process. Now lift the bird, inclining the vent downwards this time, work the egg along the passage when it should drop out. If these measures fail it will be necessary to break the egg and remove the contents, when the shell should come away easily.

Egg-eating.—In reality this is a vice and not a disease at all. It is usually caused by the accidental breakage of an egg, either in the nest or in the run, while not infrequently the vice is acquired by a hen while away at a show, or during its period of confinement in the hamper. If one bird in a flock starts egg-eating, it is a sure and certain thing that every other bird will acquire the vice with speed and thoroughness. So keen becomes their desire for eggs that not infrequently hens will stay inside the house all day waiting for the eggs as they are laid. In the case of birds of no particular value the best way is to kill off every culprit at once. But with valuable breeding stock this is impracticable, and indeed I can think of no more wrath-compelling discovery than that of a pen of exhibition stock engaged in gobbling up every one of the priceless eggs as it is produced. The certain method of salvaging is the provision of a nest with a false and sloping bottom, so constructed that the egg when dropped by the hen will roll to the back of the nest and, dropping through a space of two inches or so left there for the purpose, vanish out of sight and reach of the cheated marauders. The back and bottoms, both real and false, must all be padded to prevent the eggs being cracked or broken. Every other nest or suspicion of one must be removed, and even then there is no guarantee that some of the hens

will not lay their eggs on the floor. To effect a cure is entirely another matter. The one usually recommended of removing the contents of an egg and filling it with a nauseous or fiery mixture of mustard, cayenne, or the like, I have never found in any way successful—all the egg-eating hens of my acquaintance have eaten up these prepared eggs with as much greediness as they did the real ones, and, *Oliver Twist*-like, asked for more. A method I have found wonderfully successful, however, is to keep the nests supplied with eggs, and as fast as the hens empty one replenish it. Appetites vary, but perseverance brings success, and the time comes when even the most confirmed egg-eater has had its fill and leaves the eggs at last in possession of the field. The cure, I am open to confess, is, except during the hatching season, when there is usually a profusion of infertile and addled eggs, a somewhat expensive one.

Feather-eating.—Although by no means so common as egg-eating, this particular vice is often induced through too strict and long continued confinement, accompanied by a lack of suitable food. Once a single bird begins plucking and eating feathers it may be taken as tolerably certain that the whole of the birds in the pen will be doing the same thing most industriously in a matter of hours. The head, neck and root of the tail are favourite spots. Bitter aloes mixed with vaseline and smeared on the young quills has a deterring effect. Another method is to file or cut the edges of the beak so that the feather cannot be properly grasped, but wherever possible the best plan is to put the birds on free range. In any case, abundance of green food should be provided and a little salt added to the soft food. Allied to feather-eating is the

pecking of the male bird's comb by his wives. Times without number have I seen a cockerel, bleeding profusely from the comb and wattles, standing and allowing the hens to crowd round him and peck to their hearts' content. The only thing to do is to remove the male bird immediately, and in the case of a breeding pen substitute another. It is rare that the hens will peck at the cockerel's comb unless they notice some blood, and for this reason whenever a bird is injured, however slightly, and the blood flows, it should be removed at once until the abrasure is healed.

Frost-bite.—Although not very prevalent in England, some of the large-combed breeds, in the case of an exceptionally severe winter, are occasionally attacked. The points of the spikes are usually affected, and, if neglected, blacken and ultimately drop off, spoiling the bird for exhibition purposes. The comb should be gently but thoroughly rubbed with camphorated oil night and morning. In severe weather, however, valuable birds should be kept in a warm house and their combs oiled each evening.

Gapes.—One of the most dreaded of chicken diseases, it is fortunately not a common one, many other ailments being confounded with it. It is due to the presence of small worms in the windpipe, causing the chicken to gasp for breath, hence the name 'gapes.'

The disease usually results through the rearing of chickens on dirty, unsanitary and germ-infected land, and is rarely known where the youngsters have suitable runs. Owing to the difficulty of treating young chickens, remedial measures are often of small avail. The insertion of a stripped feather dipped in turpentine into the windpipe will, if it does not kill the chicken, sometimes dislodge the worms. Dead chickens should

be destroyed by burning and the runs and houses plentifully sprinkled with lime or watered with a solution of sulphuric acid.

Going-Light.—See Tuberculosis.

Leg-weakness.—When lanky, big-limbed youngsters are observed squatting on their shanks or walking with palpable weakness, leg-weakness may be safely diagnosed. Give a one grain quinine pill daily and a little Parrish's Chemical Food. The regular use of bone meal in the soft food will prevent any cases of leg-weakness.

Liver-disease.—One of the most common diseases of adult stock. It rarely attacks growing birds. Its predisposing cause is generally unsuitable food, though lack of exercise will also tend to its contraction. The symptomatic demeanour and appearance of an affected bird include lack of appetite, turning over the food without eating it, lethargic movements, dark or purple comb, and dull plumage.

Liver trouble is mostly found where fowls are kept in strict confinement, birds on a free range being seldom affected. Give daily as much dry borax as will cover a sixpence followed by a teaspoonful of water; or the same quantity of a mixture of bicarbonate of soda and rhubarb in equal parts.

Give plenty of green food to all the birds and add chopped onions to the mash at least once a week.

Moulting.—Although moulting is a process of nature, and as such, strictly speaking, has no place in this chapter, for convenience' sake I think it advisable to include here my remarks on the subject. From July to September is the natural time when fowls should shed their plumage, and don a new coat, but through a variety of causes the moult may take place earlier

than July or it may drag through the winter months. Much can be done to hasten the process, and it is advisable to make every effort to get all birds newly plumaged before the rigours of winter set in, with consequent additional danger to health at a time of considerable lowness of constitutional vigour.

When the warmer weather comes and the birds begin to show, by the dropping of feathers, indications of an approaching change of plumage, any birds that it is desirable to moult quickly must be confined to the precincts of a large warm shed and fed very sparingly on grain. When the feathers are falling freely and indeed the birds are pretty well on the way to nakedness the time is at hand to feed heavily on feather-forming foods. For a week or so soft food may be given night and morning, and to the hot-water used for scalding the bran or biscuit meal that forms the basis of the mash add one tablespoonful of treacle (the old-fashioned brand if procurable) to every twenty fowls. Besides helping the growth of feathers, treacle is healthful to a degree, and imparts considerable lustre to the plumage. At mid-day a little sunflower seed and hemp seed may be given with advantage. This mode of feeding is of course intended for the exhibition breeder to whom the early moulting of his birds is a matter of very considerable importance, and is obviously not to be recommended for adoption on a commercial farm with a stock running into many hundreds and possibly thousands. An iron tonic may with advantage be given to black or coloured fowls. Carbonate of iron is the most convenient form to use. No iron, yellow maize or hemp-seed should, however, be given to partially or wholly white birds. Occasionally there are birds which seem to stick in the moult, making

no observable progress. If the large feathers of the wings and tail have not been dropped, they should be gently pulled with the hand ; and the bird immersed (except the head) for a few moments in warm water.

In cases of quill-binding this method is often most helpful.

Pneumonia.—The symptoms are very similar to those of bronchitis, except that the bird is in a much more distressed condition, breathing quickly and pantingly. Without the loss of a second's time after diagnosis of the disease the bird must be removed indoors and placed in a warm and draughtless position, preferably near the kitchen fire. Mix equal parts of glycerine and brandy, and give half a teaspoonful every two or three hours.

Roup.—This, one of the commonest of avian diseases, if taken at an early stage of development, is not very difficult to cure. Its symptoms are an offensive-smelling discharge from the nostrils, swollen face and eyes, which latter occasionally are entirely closed by the swellings, and in bad cases the mouth and throat are partially clogged by a mucigenous collection. It is undoubtedly caused by filth, and the continual breathing of vitiated atmosphere.

The overcrowding of growing birds in small, badly ventilated coops or houses is responsible for many, indeed most, cases of this disease. Many poultry-keepers hold the view that roup results from a neglected cold, of which it is a development. With this theory I cannot agree. The colds so often contracted by poultry during wet or damp weather, if neglected, usually lead to bronchitis ; while according to my experience, true cases of roup actually start with the symptoms of roup itself. Owing to the contagious

nature of this disease, isolation of every actual or suspected case is imperative. The place chosen for a hospital should be dry, warm and draught-proof, but at the same time allowing egress to abundance of fresh air.

Now in the medicinal treatment of roup it is futile to stick to any one remedy. The treatment that has proved eminently successful in one case may fail most dismally in another, and for this reason I give a few alternative methods, all of which have proved successful with certain birds.

1. Mix together liquorice powder, $\frac{1}{2}$ ounce ; ginger, $\frac{1}{2}$ ounce ; gentian, $\frac{1}{4}$ ounce, and make into a stiff paste with Balsam copaiba. Make into pills the size of a pea and give one or two night and morning.

2. Give the roup cure recommended for diptheric roup.

3. Mix equal parts by weight of carbonate of iron, liquorice, gentian and cayenne, and mix in the soft food, allowing a quarter teaspoonful to each bird. In the case of fowls so badly affected that they will not eat it is essential that they should be fed by hand ; make the soft food into little balls and push down the throat with the finger.

Scaly Leg.—To this most unsightly condition of the legs some breeds, particularly feather-legged ones, are peculiarly liable, but it may and frequently does attack all kinds of fowls. Dirty runs are often the cause of it, and being of parasitic origin it is often carried from one yard to another. Broody hens afflicted with the disease should not be allowed to rear chickens.

Scaly leg, however, is easily cured. Mix $\frac{1}{4}$ ounce Flowers of Sulphur with 1 ounce oil of Tar and apply

thoroughly to the affected parts. After two or three days scrub vigorously with a hot solution of soda and water.

One application and subsequent scrubbing usually proves successful, but in long standing cases a repetition may be necessary.

Sour-crop.—This distended condition of the crop is often confounded by the novice with crop-binding. An examination will, however, reveal that instead of being filled with a hard and well-nigh immovable mass, as in crop-binding, it is soft and flabby to the touch. The bird should be held head downwards, when gentle pressure will expel the contents in a stream of sour-smelling liquid. A dose or two of bi-carbonate of soda or borax will speedily put matters right.

Tuberculosis.—Commonly known as "Going Light," which is vastly explanatory of the nature of the disease; unless diagnosed in its earliest stages and given prompt and expert treatment it is absolutely incurable. In most instances the disease is hereditary and is the result, as often as not, of close in-breeding, usually from immature or debilitated birds. While little known amongst utility fowls, it is a terrible scourge in some exhibition varieties.

Incorporate 2 ounces of honey in a quarter pint of whiskey and add a quarter pint of cod liver oil. Give a teaspoonful of the mixture twice a day, and if this does not effect a cure it is supremely doubtful if anything on earth will.

While the "cure" is in progress, the bird should be fed with bread and milk, oatmeal and rice, and anything of a tempting nature. Obviously nothing but a valuable show specimen is worth the trouble and expense.

Unshelled eggs.—It not infrequently happens that hens lay eggs without the outer covering of shell, and from time immemorial it has been the custom of the poultry-keeper to deduce from this a lack of shell-forming material; and although there may be odd cases where this is in all truth the cause, in the majority of cases over-fatness or the too free use of stimulating foods or spices is the mainspring of the trouble. Discontinuance of anything of a stimulating nature, and a course of Epsom salts in the food are the best remedial measures to adopt.

Worms.—The appearance of a bird infested with worms is somewhat similar to one in the dread grip of tuberculosis, losing weight and lacking vigour to precisely the same degree. There is, however, in this case an absence of the peculiar pinched-like appearance of the face that is so marked a symptom of tuberculous disease. A dose of turpentine (about six to twelve drops in a teaspoonful of water) will usually prove effective; or a few grains of areca-nut may be given as an alternative remedy.

White Comb.—It is left for the concluding disease of a somewhat formidable list to be the most virulent, the most contagious and the most to be dreaded of every disorder known to the world of aviculture.

So contagious is it indeed that from the unsuspected presence of the disease on a single purchased bird, I have known it affect every single specimen in a flock of hundreds. Time and again has white comb been contracted at shows, and before the disease has manifested itself the germ has spread like a veritable flame of fire throughout the whole of the breeder's stock.

The disease outwardly manifests itself in a white

powdery eruption on the comb, which, starting in a small spot, quickly spreads all over the surface of the comb, face, wattles, and not infrequently attacks the head and neck, causing the feathers to drop out and the fowl to present a loathsome appearance. The seriousness of this disease will be realized when it is borne in mind that in common fairness to others no breeder can send out any birds, however healthy they may apparently be, until the disorder is stamped out.

To effect a cure is extremely difficult, and the task, too, is disagreeable and even repulsive to a degree. In mild cases iodoform ointment will sometimes prove effectual. If this fails a strong solution of resorcin should be applied night and morning. Coincidentally sulphur should be given in the soft food.

CHAPTER X

A TECHNICAL DICTIONARY

Barred.—Horizontal streaks or stripes of a different colour to the body of the feather appearing at regularly defined intervals.

Beak.—The horn projection divided into upper and lower mandibles used by the fowl for picking up food, etc.

Beard.—The fluffy cluster of feathers attached to the underside of the throat in certain breeds, such as the Orloff, Faverolle and Houdan.

Bill.—The equivalent in waterfowl to the hen's beak.

Brassy.—A yellowish metallic sheen observable on surface plumage carrying a high lustre. It is rarely seen in females. A serious defect.

Breed.—A type of fowl possessing characteristics sufficiently distinctive to differentiate it from other fowls.

Broody.—The term applied to a hen evincing a manifest inclination to sit.

Capon.—A male bird that has been castrated while young. It resembles considerably a hen and attains large size, hence the advantages of caponizing for market purposes. The operation must be performed at an early stage in the bird's development.

Carriage.—The characteristic normal attitude of a fowl.

Caruncle.—The naked fleshy excrescence on the head and wattles of a male turkey and on the heads of certain breeds of geese.

Chickens.—The term applied to all fowls of both sexes during and until the termination of the year of their birth. In America the word chicken is applied indiscriminately to all sizes and ages of fowls.

Classic Show.—The description given to the Dairy, Crystal Palace, Olympia, Birmingham and Manchester Shows. Strictly speaking the constitution of a classic show is far from being clear. The list here given is that of those shows which popular poultry parlance has dubbed "classic," on account evidently of their size and importance; and it is conceivable that the growth and development of other shows may at any time lead to an extension of the list.

Cock.—A male specimen of an age exceeding twelve months.

Cockerel.—A male specimen under twelve months of age.

Cockerel-breeder.—The description of a bird which, although itself unsuitable for exhibition, is, by reason of its heredity and characteristics, especially suited for use in breeding exhibition cockerels.

Comb.—The red fleshy ornament carried on the crown of the head.

Condition.—A term meaning essentially fitness, especially in its outward manifestations as regards redness of comb and lustre of plumage.

Creamy.—The yellowish tendency that is often seen in the plumage of all white varieties.

Crest.—A cluster of feathers on the top of the head which may be globular in shape, as in the Poland, or otherwise.

Crop.—The storage place for food before digestion.

By feeling the crop it is easy to tell whether or not the bird has recently had a feed.

Cross-bred.—The progeny of two distinct breeds.

Cup-comb.—Where the formation of the comb is cup-like, as in the Buttercup.

Cushion.—In most breeds there should be no cushion ; this being a term applied to the rising of the feathers into a rounded hump on the back of the bird, chiefly observable in females. It must not be confounded with roach back ; a deformity.

Dewlap.—Loose hanging skin under the throat.

Double Mating.—Applied to varieties where sexual differences in colour involve the use of two distinct breeding pens, one for the production of correctly marked cockerels, and the other for correctly marked pullets.

Down.—Feathering devoid of quill or web. The birthday covering of chickens and ducklings.

Dubbed.—The condition of a bird whose comb and wattles have been removed by a surgical operation. Game fowls of both sexes are usually dubbed, and often the breeding males of large-combed breeds, such as the Minorca and Leghorn.

Duckling.—A young duck or drake.

Duck-foot.—The condition in which the heel of a fowl is not carried in its natural position behind the foot—a serious defect.

Ear-lobe.—The skin devoid of feathering below the ear, varying considerably in size and colour in different breeds.

Face.—The area immediately surrounding the eye, which is free from feathering—the extent of this area varies in different breeds.

Feather-legged.—A bird flourishing projecting feathers on the outer sides of the legs below the thighs.

Flights.—A synonymous term for primaries. The wing feathers used in flying, but hidden from sight when the wing is closed.

Flight-coverts.—Short, stiff feathers situated at the base of the flight feathers.

Fluff.—The feathering on the thighs; much softer and more profuse than any other part of the plumage.

Frosted.—Where the feathers of a self-coloured fowl are edged with white.

Furnished.—A term generally applied to cockerels which have attained the full majesty of adult plumage.

Hackle.—The long narrow feathers which constitute the neck covering of both sexes.

Hen.—A female specimen of an age exceeding twelve months.

Hen-feathered.—A term applied to a male bird whose plumage is devoid of the long narrow shining saddle feathers and tail sickles that characterize his sex.

Hock.—The knee.

Hollow-comb.—A defect where the rose comb is disfigured by a basin-like depression.

Keel.—The underside of the body to which the breast-bone gives its shape.

Knock-kneed.—Where the knee joints incline inwards, and almost touch each other. A serious deformity.

Laced.—The condition of a feather edged with a narrow band of a different colour or deeper shade than the body of the feather. In all except laced varieties a serious defect.

Leg.—Anatomically the section including thigh, hock and shank: in poultry parlance, the shank only.

- Leader.**—The terminating spike of a rose-comb.
- Lopped-comb.**—A single comb which falls over to one side.
- Mealy.**—A defect where each self-coloured feather shows more than one shade of colour.
- Mongrel.**—A bird presenting the characteristics of no particular breed or variety.
- Mossy.**—A feather colour defect, where the markings are not sufficiently clear or distinct.
- Mottled.**—Where the feathers are tipped with another colour giving a mottled appearance. In self-coloured varieties, mottling or uneven colouring is a serious defect.
- Muff.**—The bunch of feathers on each side of the face and immediately under the eyes.
- Parti-coloured.**—Breeds in which the plumage is of two or more colours.
- Pea-comb.**—A three-barrelled comb showing small, parallel and joined-together ridges, the one in the centre forming the apex.
- Pencilled.**—Feathers covered with fine, distinct, narrow lines as in the Dark Brahma, the Partridge Wyandotte, and the Hamburgh.
- Peppered.**—Where the plumage is dotted with minute black spots.
- Poult.**—A turkey chicken.
- Primaries.**—The wing feathers used in flying, concealed when the wing is carried normally. See "Flights."
- Pullet.**—A young female during the year of its birth.
- Pullet-breeder.**—The term applied to a bird, usually of male sex, that is especially suited for the breeding of exhibition pullets.
- Quill.**—The stem of a feather.

Roach-back.—A hump or twist in the back bone ; a serious structural deformity.

Rooster.—A cock or cockerel. The word is of American origin, in which country it is in general use.

Rump.—The abdominal or posterior section of a fowl.

Saddle.—The section of plumage formed by the long narrow flowing feathers on the male bird alongside the tail ; sometimes termed the saddle hackle.

Secondaries.—The large wing feathers which show when the wing is closed.

Serration.—The indentations between the spikes of the single comb.

Self-coloured.—Varieties in which the plumage is of one colour throughout are known as self-coloured ; e.g., Buff Orpington, Black Minorca, White Wyandotte.

Shaft.—The quill or stem of the feather.

Shafy.—The condition of the feather where the quill is of a different colour or shade to the body of the feather.

Shank.—The scale-coloured portion of the leg below the thigh, and excepting the feet and toes.

Sickles.—The long curved feathers in the male bird's tail.

Side-sprig.—An extraneous growth on the side of the single comb. A serious defect.

Slipped-wing.—A defect where the flight feathers do not fold closely and evenly.

Spangled.—Where the plumage is marked with clearly defined and regular splashes of one or more other colours, usually at the extremity of each feather.

Splashed.—Uneven patches of colour on the plumage.

Split-comb.—A single comb dissected lengthwise, partially or wholly.

- Split-wing.**—Where a definite gap is clearly shown between the primary and secondary feathers.
- Spur.**—A sharp-pointed hard bony projection on the cock's heel used for offensive purposes.
- Squirrel-tail.**—Where the tail is carried high and inclining towards the head. A serious defect in most breeds.
- Stag.**—The name sometimes given to a male bird.
- Strain.**—The name given by breeders to a certain definite blood line possessed of individual, peculiar, fixed and reproducible characteristics not common to other blood lines of the same variety.
- Striped.**—The condition where a streak or line of foreign colour extends, lengthwise, through the feathers, usually occurring in the hackle and less frequently in the saddle.
- Stub.**—The term usually applied to the short feathers sometimes found on the shanks of clean-legged breeds.
- Symmetry.**—The perfect relation in shape, size and proportion of an individual bird's parts when considered as a whole.
- Tail-coverts.**—The long flowing soft feathers of the male bird's tail, which are subservient to and shorter than the sickles.
- Thigh.**—The feathered portion of the leg immediately above the shank.
- Thumb-marked.**—The definition applied to a single comb which shows a depression in its side. A defect.
- Ticked.**—Where the extremities of the hackle feathers are spotted with black as in the female Rhode Island Red.
- Trio.**—A male and two females.

Undercolour.—The colour of the concealed portion of the plumage. To examine the undercolour the bird must be caught and the surface plumage lifted.

Variety.—Where a breed exists in more than one colour or formation of comb, each separate division is termed a variety.

Vulture-hocked.—The presence of long projecting feathers on the thighs at the hocks where the plumage should be soft. In most breeds a serious defect.

Wattles.—The hanging fleshy tentacles at the base of the beak.

Web (Feather).—The section of the feather on each side of the quill and in contradistinction to down.

Web (Feet).—The skin between the toes.

Wing-bar.—A bar or line of foreign colour across the wing.

Wing-bow.—The top section of the wing where it joins the body.

Wing-coverts.—The small feathers which cover the bottom section of the secondaries.

Wry-tail.—A tail carried perpetually to one side. A most serious defect in all breeds.

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